```
Set      Items   Description
S1           2   AU=(KROCULICK K? OR KROCULICK, K?)
S2      334944   RADIO? ? OR STEREO? ? OR PLAYER? ?
S3        4297   RADAR(3N)(DETECT? OR SENS?)
S4         331   S3 AND S2
S5         221   S4 AND IC=G01S?
S6           1   S1 AND S4
S7     1389604   CAR OR CARS OR AUTOMOBILE? OR VEHICL?
S8          52   S5 AND S7
? show file
File 344:Chinese Patents Abs Aug 1985-2004/Mar
         (c) 2004 European Patent Office
File 347:JAPIO Nov 1976-2003/Dec(Updated 040402)
         (c) 2004 JPO & JAPIO
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200427
         (c) 2004  Thomson Derwent
File 371:French Patents 1961-2002/BOPI 200209
         (c) 2002 INPI.  All rts. reserv.
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8/5/1 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2004 JPO & JAPIO. All rts. reserv.

07760848 **Image available**
GENERAL PURPOSE TYPE SYSTEM FOR MEASURING SPEED OF **VEHICLE**

PUB. NO.: 2003-254757 [JP 2003254757 A]
PUBLISHED: September 10, 2003 (20030910)
INVENTOR(s): USAMI KOJI
APPLICANT(s): ALPHA-PROGRESS KK
APPL. NO.: 2002-053008 [JP 200253008]
FILED: February 28, 2002 (20020228)
INTL CLASS: G01C-021/00; **G01S-005/14** ; **G01S-007/38** ; **G01S-007/40** ; G08G-001/0969

ABSTRACT

PROBLEM TO BE SOLVED: To utilize a **radar detector** for general purpose by utilizing the **radar detector** as an information transmission medium and catching surely data distributed from the outside.

SOLUTION: A general purpose type system for measuring the speed of a **vehicle** comprises a speed sensor of the **vehicle** , a radar receiver part for outputting signals for receiving and detecting microwaves, a data input part for inputting the data from television stations, **radio** stations or personal computers or the like, a storage device for storing the data in a control part, a signal output part for outputting regulative data, a selection means for selecting the data of detection data with voice or vision, or distribution data or the like from the outside of images, electronic mail, advertisements or the like from the data input part by signals from the signal output part, and a screen.

8/5/2 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2004 JPO & JAPIO. All rts. reserv.

07549299 **Image available**
MILLIMETER WAVE RADAR DEVICE

PUB. NO.: 2003-043139 [JP 2003043139 A]
PUBLISHED: February 13, 2003 (20030213)
INVENTOR(s): HAKU KETSU
APPLICANT(s): HITACHI LTD
HITACHI CAR ENG CO LTD
APPL. NO.: 2001-234732 [JP 2001234732]
FILED: August 02, 2001 (20010802)
INTL CLASS: **G01S-013/34** ; **G01S-013/93**

ABSTRACT

PROBLEM TO BE SOLVED: To provide a millimeter wave **radar** device for improving **detecting** accuracy of a stationary object.

SOLUTION: This millimeter wave radar device is provided with a transmission antenna 110 for radiating a **radio** wave, a receiving antenna 111 for receiving a reflected wave from an object of the **radio** wave radiated from the transmission antenna 110, an A/D converter 114 for converting a beat signal of a received signal into a digital signal by sampling the beat

signal, an FFT part 102 for analyzing the whole frequency area of data sampled by the A/D converter by fast Fourier transform, and a Zoom FFT part 103 for analyzing a frequency area in the vicinity of one's own **vehicle** speed by the fast Fourier transform among the data sampled by the A/D converter. A **vehicle** speed self- diagnosable logic part 170 compares one's own **vehicle** speed converted from a Doppler frequency of the stationary object with one's own vehicle speed obtained from a **vehicle** speed sensor, and diagnoses whether or not an error falls within a prescribed range, and analyzes the frequency area in the vicinity of the one's own **vehicle** speed by the fast Fourier transform by the Zoom FET part 103 when the error falls within the prescribed range.

8/5/3 (Item 3 from file: 347)

DIALOG(R)File 347:JAPIO

07541928 **Image available**

RADIO WAVE RADAR DEVICE AND **VEHICLE** LOADED THEREWITH

PUB. NO.: 2003-035768 [JP 2003035768 A]
PUBLISHED: February 07, 2003 (20030207)
INVENTOR(s): TAKANO KAZURO
APPLICANT(s): HITACHI LTD
APPL. NO.: 2001-222671 [JP 2001222671]
FILED: July 24, 2001 (20010724)
INTL CLASS: **G01S-007/40** ; **G01S-013/34** ; **G01S-013/93** ; G08G-001/16

ABSTRACT

PROBLEM TO BE SOLVED: To provide a **radio** wave **radar** device capable of **detecting** a state that the axis of a **radio** wave radar is shifted in the vertical direction to become impossible to accurately catch a preceding **vehicle** , and a **vehicle** loaded therewith.

SOLUTION: The **radio** wave radar device has a transmission antenna 210 for emitting **radio** waves toward a front target, a receiving antenna 202 for receiving the reflected waves from the front target and a signal processing part 208 for detecting the distance, relative speed or the like with the target on the basis of the signal received by the receiving antenna. The signal processing part 208 uses the signal intensity of the reflection signal from the **radio** wave reflector 6 provided to a part of the **vehicle** present within the **radio** wave emitting range of the **radio** wave radar.

8/5/4 (Item 4 from file: 347)

DIALOG(R)File 347:JAPIO

07345844 **Image available**

VEHICULAR RADAR

PUB. NO.: 2002-214335 [JP 2002214335 A]
PUBLISHED: July 31, 2002 (20020731)
INVENTOR(s): KANECHIKA MASAYUKI
HIRAMOTO YASUSHI
SEKI KOICHI

KUBO FUMIO
APPLICANT(s): STANLEY ELECTRIC CO LTD
APPL. NO.: 2001-011734 [JP 200111734]
FILED: January 19, 2001 (20010119)
INTL CLASS: **G01S-013/93** ; **G01S-013/42** ; G08G-001/16

ABSTRACT

PROBLEM TO BE SOLVED: To allow a vehicular millimeter-wave **radar** to easily **detect** a target with accuracy using a small and inexpensive arrangement without the need to perform mechanical and electronic scans using antennas.

SOLUTION: The vehicular radar includes sending and receiving antennas 1a and 1b, and a plurality of sets of front ends fitted with frequency mixers 2a and 2b. Signals from the frequency mixers 2a and 2b are switched from one to the other by a changeover switch 3 using time division and input to a signal processing portion 4 to detect the position (angle) of a **vehicle** ahead, that is, the target. In this case, the width of a **radio** wave beam from each of the antennas 1a and 1b and the distance between the adjacent antennas are properly set.

8/5/5 (Item 5 from file: 347)
DIALOG(R)File 347:JAPIO

07313438 **Image available**
RADAR APPARATUS

PUB. NO.: 2002-181924 [JP 2002181924 A]
PUBLISHED: June 26, 2002 (20020626)
INVENTOR(s): SAYANA TOMOAKI
APPLICANT(s): NEC CORP
APPL. NO.: 2000-385517 [JP 2000385517]
FILED: December 19, 2000 (20001219)
INTL CLASS: **G01S-013/34** ; **G01S-013/60** ; **G01S-013/93**

ABSTRACT

PROBLEM TO BE SOLVED: To provide a radar apparatus in which a change in modulation sensitivity due to temperature change and the change with time is reduced with a simple constitution and in which the distance measurement of an on- **vehicle** **radar** used to **detect** the distance between two **cars** is enhanced.

SOLUTION: A transmission-reception part 20 transmits and receives **radio** waves used to detect the distance between the two **cars** . A radar-signal processing part 30 receives and processes the reflected waves of the **radio** waves so as to obtain distance-between-two- **cars** information. A modulating-signal generation part 12 outputs triangular-wave digital data 22 by a trigger signal 21. A D/A converter 10 converts the digital data 22 into a triangular-wave modulating signal 19 as an analog signal so as to be output. A signal processing part 13 to which a beat A/D output 18 is input performs an FFT processing operation so as to output distance speed information 17. A CPU 14 to which own- **ve**hicle -speed information 16 and the distance speed information 17 by speed detection pulses and running-distance detection pulses are input so as to be processed outputs distance data 29 and the trigger signal 21. A memory 15 stores the distance data 29. A directional coupler 6 branches a high-frequency amplification

output 26.

8/5/6 (Item 6 from file: 347)
DIALOG(R)File 347:JAPIO

07287977 **Image available**
OBSTACLE DISCRIMINATING METHOD

PUB. NO.: 2002-156450 [JP 2002156450 A]
PUBLISHED: May 31, 2002 (20020531)
INVENTOR(s): MASUDA MITSURU
APPLICANT(s): NATL INST FOR LAND & INFRASTRUCTURE MANAGEMENT MLIT
APPL. NO.: 2000-354165 [JP 2000354165]
FILED: November 21, 2000 (20001121)
INTL CLASS: **G01S-013/87**

ABSTRACT

PROBLEM TO BE SOLVED: To provide an obstacle detecting method which can reduce problems of a ghost caused by a **radio** wave reflected by a guide rail, a road wall, etc., has high detection precision, and uses, specially, a millimeter wave radar.

SOLUTION: An obstacle on a road is **detected** by using a **radar** , specially, a millimeter wave radar composed of a set of ≥2 individual millimeter wave radars which have mutually different radiation and reflection directions of **radio** wave beams, i.e., an individual millimeter wave radar which is installed at almost the same height with a **vehicle** , etc., traveling on the road and radiates and reflects a **radio** wave beam in parallel to/from the road and a millimeter wave radar which is installed above the **vehicle** , etc., traveling on the road and radiates and reflects a **radio** wave beam obliquely downward to/from the road and a multiplying circuit which multiplies image signals that the radar individual millimeter wave radars receive respectively.

8/5/7 (Item 7 from file: 347)
DIALOG(R)File 347:JAPIO

06957039 **Image available**
VEHICLE SPEED MONITORING DEVICE

PUB. NO.: 2001-184591 [JP 2001184591 A]
PUBLISHED: July 06, 2001 (20010706)
INVENTOR(s): AOKI HIROSHI
APPLICANT(s): MITSUBISHI ELECTRIC CORP
APPL. NO.: 11-366795 [JP 99366795]
FILED: December 24, 1999 (19991224)
INTL CLASS: G08G-001/054; **G01S-007/40** ; **G01S-013/92** ; G08G-001/04

ABSTRACT

PROBLEM TO BE SOLVED: To perform real speed monitoring by preventing the radiation of **radio** waves from a **radar** system from being **detected** in advance with a **radar** **detector** loaded on a **vehicle** .

SOLUTION: A laser sensor having a radiating point on the upstream side of a position irradiated with the **radio** waves of a radar is installed and ordinarily, **radio** waves are not radiated from the radar system but the **vehicle** is detected by the laser sensor and the speed is monitored by radiating **radio** waves just before the position irradiated with the **radio** waves of the radar on the basis of distance information provided from the laser sensor.

8/5/8 (Item 8 from file: 347)
DIALOG(R)File 347:JAPIO

06906014 **Image available**
RADAR DETECTION SYSTEM

PUB. NO.: 2001-133539 [JP 2001133539 A]
PUBLISHED: May 18, 2001 (20010518)
INVENTOR(s): FUJIE HIDEKATSU
APPLICANT(s): FUNAI ELECTRIC CO LTD
FUNAI ELECTRIC ENG CO LTD
APPL. NO.: 11-317722 [JP 99317722]
FILED: November 09, 1999 (19991109)
INTL CLASS: **G01S-007/40** ; G01P-003/44; G08G-001/052

ABSTRACT

PROBLEM TO BE SOLVED: To efficiently control an electric power source to restrain consumption of a solar battery without detracting convenience, in a **radar detection** system provided with the solar battery as the power source.

SOLUTION: This system is a **radar detection** system 1 constituted of a **radar detector** 2 equipped on a **vehicle** for receiving a **radio** wave to output an alarm, and of a rotary detector 3 constituted separately from the **radar detector** 2, and **detects** , in the rotary detector 3, pulses in an electric power source line of a cigar lighter socket in the **vehicle** to transmit a **detection** result to the **radar detector** 2. Whether the number of the pulses per a unit time is a prescribed value or more or not is determined in the **radar detector** 2 based on the detection result transmitted from the rotary detector 3, and an electric power consumption in the **radar detector** 2 is restrained when it is lower than the prescribed value.

8/5/9 (Item 9 from file: 347)
DIALOG(R)File 347:JAPIO

06889331 **Image available**
VEHICULAR RADAR SYSTEM

PUB. NO.: 2001-116840 [JP 2001116840 A]
PUBLISHED: April 27, 2001 (20010427)
INVENTOR(s): ASAKA KOICHI
APPLICANT(s): MATSUSHITA ELECTRIC IND CO LTD

APPL. NO.: 11-294014 [JP 99294014]
FILED: October 15, 1999 (19991015)
INTL CLASS: **G01S-013/93** ; **G01S-007/03** ; H01Q-015/14; H01Q-017/00

ABSTRACT

PROBLEM TO BE SOLVED: To provide information about traveling of a **vehicle** , for example, information such as stop, deceleration and warning, to promote safety travel.

SOLUTION: In this radar system wherein a radar 1 emitting a **radio** wave is mounted on the **vehicle** 7 travelling on a track or a road to provide the information from the track 6 or the road by the radar, a plurality of or single reflector(s) 4 having a sloped face for reflecting the **radio** wave, and a plurality of or single absorber(s) 5 for absorbing the **radio** wave are arranged in the track or the road, and a processing means 2 for processing a signal **detected** by the **radar** and a display warning means 3 for warning a driver are arranged in the **vehicle** . Arrangement patterns of the reflector plate and the absorber plate 5 are captured by the radar to discriminate the information, for example, indications of the stop and the deceleration of the **vehicle** , and erroneous detection for the reflected wave is prevented by the arrangement of the absorber plate.

8/5/10 (Item 10 from file: 347)
DIALOG(R)File 347:JAPIO

06719009 **Image available**
ON- **VEHICLE** STRUCTURE FOR RADAR

PUB. NO.: 2000-304847 [JP 2000304847 A]
PUBLISHED: November 02, 2000 (20001102)
INVENTOR(s): ASHIHARA ATSUSHI
APPLICANT(s): HONDA MOTOR CO LTD
APPL. NO.: 11-147030 [JP 99147030]
FILED: April 16, 1999 (19990416)
INTL CLASS: **G01S-007/03** ; B60R-019/52; B60R-021/00; **G01S-013/93**

ABSTRACT

PROBLEM TO BE SOLVED: To suppress attenuation of **radio** waves by foam so as to transmit/ receive **radio** waves with a sufficient wave transmittance by forming a front grill positioned in front of a radar out of a resin including foam.

SOLUTION: In an on- **vehicle** structure for a **radar** **detecting** a forward obstacle, a front grill 1 and an emblem 2 are formed of a resin 4 including foam when a radar 3 is arranged inside the front grill part based on a structure in which the emblem 2 is overlapped in the center of the front grill 1. As the resin 4 including foam, any of a foaming resin, hollow resin and honeycomb type resin can be used. In this on- **vehicle** structure for the radar 3, **radio** wave attenuation can be suppressed to the minimum because of foam when **radio** waves are transmitted/received through the front grill 1 and the emblem 2. A structure, in which a part of the front grill 1 is cut out and a plate made of the resin 4 including foam is installed in the cutout, may be used.

8/5/11 **(Item 11 from file: 347)**
DIALOG(R)File 347:JAPIO

06527674 **Image available**
TRAVEL CONTROLLER FOR **VEHICLE**

PUB. NO.: 2000-113397 [JP 2000113397 A]
PUBLISHED: April 21, 2000 (20000421)
INVENTOR(s): SHIN AKIHIRO
FUJII HIROSHI
HATTORI TAIJI
APPLICANT(s): MITSUBISHI MOTORS CORP
APPL. NO.: 10-286834 [JP 98286834]
FILED: October 08, 1998 (19981008)
INTL CLASS: G08G-001/16; B60R-021/00; **G01S-013/93**

ABSTRACT

PROBLEM TO BE SOLVED: To provide the **vehicle** travel controller which reduces the mental fatigue of a driver by providing as much precedent **vehicle** information as possible for a driver and secures the safety of a travel even when tracking control is impossible owing to a bad visual field.

SOLUTION: The **vehicle** travel controller holds a specific **vehicle** -to- **vehicle** distance by increasing or decreasing the speed of its **vehicle** according to precedent **vehicle** information detected by a **radio** wave radar means and when a bad visual field is detected (step S10), tracking control is quit (step S10) and the precedent **vehicle** information **detected** by the **radar** means is provided to the driver together with information on the road state of a navigation means (steps S14, 22, and 26), so the driver is able to easily grasp whether or not there is a precedent **vehicle** , the **vehicle** -to- **vehicle** distance, etc., according to the information.

8/5/12 **(Item 12 from file: 347)**
DIALOG(R)File 347:JAPIO

06252586 **Image available**
METHOD FOR ADJUSTING AXIS OF ON- **VEHICLE** RADAR

PUB. NO.: 11-194165 [JP 11194165 A]
PUBLISHED: July 21, 1999 (19990721)
INVENTOR(s): HAKU TAKASHI
NAKAMURA MITSURU
HANAWA KAZUHIKO
MOJI TATSUHIKO
TAKANO KAZURO
SATO KENJI
APPLICANT(s): HITACHI LTD
HITACHI CAR ENG CO LTD
APPL. NO.: 10-001099 [JP 981099]
FILED: January 06, 1998 (19980106)
INTL CLASS: G01S-007/40 ; B60R-011/02; B60R-021/00; **G01S-007/03** ; **G01S-013/93** ; H01Q-003/02

ABSTRACT

PROBLEM TO BE SOLVED: To provide a method for adjusting axis of on- **vehicle** radar by which the setting angle of the antenna of monopulse radar equipment which is mounted on a **vehicle** and has a transmitting-receiving function for **radio** waves, light, ultrasonic waves, etc., can be adjusted accurately and easily with the minimum change.

SOLUTION: In a method for adjusting axis of on- **vehicle** radar, the axis of on- **vehicle** radar is adjusted in such a way that at least two points are set on a **vehicle** and at least two isosceles triangles having different lengths of isosceles sides are drawn by using the line connecting the two points as bases. Then the line connecting the vortexes of the triangles and its extension line is used as the axis 5 of the **vehicle** and a radar antenna 1 is mounted on the **vehicle** at the offset position of the **vehicle** which is separated from the axis 5 by a fixed distance in the horizontal direction. In addition, a straight line which passes through the offset position and is parallel to the axis 5 is found as an offset axis 6 and a reflecting body is set at a fixed azimuth direction from the offset position of the antenna 1. Finally, the setting angle of the antenna 1 is adjusted so that the detected azimuth value of the reflecting body may become a set azimuth value by using the reflecting body as the target to be **detected** of the **radar** .

8/5/13 (Item 13 from file: 347)

DIALOG(R)File 347:JAPIO

06167484 **Image available**

ONBOARD RADAR EQUIPMENT

PUB. NO.: 11-109030 [JP 11109030 A]
PUBLISHED: April 23, 1999 (19990423)
INVENTOR(s): KISHIDA MASAYUKI
APPLICANT(s): FUJITSU TEN LTD
APPL. NO.: 09-268992 [JP 97268992]
FILED: October 01, 1997 (19971001)
INTL CLASS: **G01S-013/93** ; B60R-021/00; **G01S-007/32** ; **G01S-007/40** ; **G01S-013/50**

ABSTRACT

PROBLEM TO BE SOLVED: To accurately perform a performance decision of a radar, by correcting the amplitude of a reflection wave in a deterioration detection means to an increase side in the case where it is decided that a road surface is wet on the basis of **detection** output.

SOLUTION: A **radar sensor** 21 emits the FM **radio** wave of a triangular wave toward a target to receive the reflection wave so as to output a beat signal. A signal processing part 11 frequency-analyzes a beat signal which the **radar sensor** 21 outputs so as to calculate a distance up to the target, the relative speed of an own **vehicle** and the like, and an instruction signal is outputted to each spot of radar equipment including a cruise control 24. A rain sensor 25 detects the state of a road surface (whether or not the road surface is wet). As a result, deterioration of sensor performance can be accurately decided without being influenced on an outside environment by detecting the road surface reflection wave in response to the outside environment of the road surface and the like

without using an inherent sensor for detecting the capability of respective circuits.

8/5/14 (Item 14 from file: 347)
DIALOG(R)File 347:JAPIO

05531041 **Image available**
LASER **RADAR** DEVICE WITH POSITION **DETECTING** DEVICE

PUB. NO.: 09-145841 [JP 9145841 A]
PUBLISHED: June 06, 1997 (19970606)
INVENTOR(s): YAMAGUCHI SHIGERU
NAKAJIMA ISATO
YAMAMOTO TAKASHI
APPLICANT(s): ISHIKAWAJIMA HARIMA HEAVY IND CO LTD [000009] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 07-301280 [JP 95301280]
FILED: November 20, 1995 (19951120)
INTL CLASS: [6] **G01S-017/46** ; **G01S-005/14** ; **G01S-007/10** ; G01W-001/00
JAPIO CLASS: 44.9 (COMMUNICATION -- Other); 26.2 (TRANSPORTATION -- Motor **Vehicles**); 32.1 (POLLUTION CONTROL -- Exhaust Disposal); 34.4 (SPACE DEVELOPMENT -- Communication); 46.1 (INSTRUMENTATION -- Measurement
JAPIO KEYWORD:R002 (LASERS)

ABSTRACT

PROBLEM TO BE SOLVED: To show the distributed state in the atmosphere of airborne particles, obtained by a laser radar device, on a map and display it on the image plane.

SOLUTION: The distributed state of airborne particles in the atmosphere is **detected** by a laser **radar** device 1. A self-position detecting device 6 detects the position on the earth of the laser radar device 1 by receiving **radio** wave transmitted from a position detecting service network. A map processing unit 9 enters the detected position of the laser radar device 1 on a map. A composite image is formed by a composite image part 11 by superposing the distributed state of airborne particles with the position entered on the map as a reference point, and displayed on a display device 12.

8/5/15 (Item 15 from file: 347)
DIALOG(R)File 347:JAPIO

05210943 **Image available**
TWO FREQUENCY CW **RADAR** **SENSOR**

PUB. NO.: 08-166443 [JP 8166443 A]
PUBLISHED: June 25, 1996 (19960625)
INVENTOR(s): OSHIMA SHIGEKI
ASANO KOICHI
APPLICANT(s): TOYOTA CENTRAL RES & DEV LAB INC [000360] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 06-313843 [JP 94313843]
FILED: December 16, 1994 (19941216)

INTL CLASS: [6] **G01S-013/38 ; G01S-007/02 ; G01S-013/60 ; G01S-013/93**

JAPIO CLASS: 44.9 (COMMUNICATION -- Other); 26.2 (TRANSPORTATION -- Motor **Vehicles**)
JAPIO KEYWORD:R131 (INFORMATION PROCESSING -- Microcomputers & Microprocessers)

ABSTRACT

PURPOSE: To detect the distance to a nearby obstacle highly accurately even when an object reflecting the **radio** wave strongly is present on the outside of detection range.

CONSTITUTION: Two sets of high frequency signal having frequency differences .delta.f1 and .delta.f2, smaller than .delta.f1, from a high frequency signal having a constant frequency fc are transmitted simultaneously from a transmitting section and reflected waves from an object are received at a receiving section. Phase comparators 74, 76 detect a phase difference .delta..sigma.1 of a receiving wave corresponding to a high frequency signal having the frequency difference .delta.f1 and a phase difference .delta..phi.2 of a receiving wave corresponding to a high frequency signal having the frequency difference .delta.f2, respectively. When the phase difference .delta..phi.2 is smaller than a threshold value (i.e., when the distance to the obstacle is detected roughly), the precise distance to the obstacle is operated based on the phase difference .delta..phi

8/5/16 (Item 16 from file: 347)
DIALOG(R)File 347:JAPIO

05190631 **Image available**
ON- **VEHICLE** RADAR DEVICE

PUB. NO.: 08-146131 [JP 8146131 A]
PUBLISHED: June 07, 1996 (19960607)
INVENTOR(s): URABE MASANOBU
SHINGYOUCHI MASAHITO
APPLICANT(s): HONDA MOTOR CO LTD [000532] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 06-308159 [JP 94308159]
FILED: November 17, 1994 (19941117)
INTL CLASS: [6] **G01S-013/93 ; G01S-007/02 ; G01S-013/32 ; G01S-013/87** ; H01Q-001/27; H01Q-003/24; H01Q-019/18
JAPIO CLASS: 44.9 (COMMUNICATION -- Other); 26.2 (TRANSPORTATION -- Motor **Vehicles**); 44.1 (COMMUNICATION -- Transmission Circuits & Antennae

ABSTRACT

PURPOSE: To improve the monitoring function by dividing only a radar-module into a nearly monitoring radar-module and a remote monitoring radar-module, and controlling the operations of both the monitoring **radar** modules to **detect** the distance to an object.

CONSTITUTION: In a nearly monitoring radar-module 10 in which a delay circuit DL is inserted, a reflecting body is apparently moved away from a **vehicle** to improve the nearly monitoring function. Due to insertion of the delay circuit DL, an insertion loss is added, and power for transmitting and receiving **radio** waves is reduced to reduce the distance to be monitored, but in this case there is no problem for the purpose of

monitoring the neighborhood. With a remote monitoring radar-module 20, the delay circuit DL is not inserted to cause the damage to the nearly monitoring function, but there is no problem for the purpose of remote monitoring. Further, due to the removal of the delay circuit, power for radiating **radio** waves is increased by the amount equivalent to the delay circuit insertion loss, and the long distance monitoring function is strengthened. A monitor and control device 30 controls the operations of the respective radar-modules 10, 20 to detect the distance to an object.

8/5/17 (Item 17 from file: 347)
DIALOG(R)File 347:JAPIO

05088040 **Image available**
RADIO MEASURING APPARATUS

PUB. NO.: 08-043540 [JP 8043540 A]
PUBLISHED: February 16, 1996 (19960216)
INVENTOR(s): ABE KAZUMI
APPLICANT(s): AICHI CORP [324013] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 06-195969 [JP 94195969]
FILED: July 28, 1994 (19940728)
INTL CLASS: [6] G01V-003/12; **G01S-013/88** ; G01V-003/17
JAPIO CLASS: 46.1 (INSTRUMENTATION -- Measurement); 44.9 (COMMUNICATION -- Other)
JAPIO KEYWORD:R007 (ULTRASONIC WAVES)

ABSTRACT

PURPOSE: To obtain a self-propelled **radio** measuring apparatus such as a radar apparatus or the like by which the state of a buried object can be grasped precisely.

CONSTITUTION: The position of a radar antenna 12 which is installed on a **vehicle** body 11, which can run freely, in such a way that the radar antenna can reciprocate in the right and left directions, is always **detected** by a **radar** - antenna-position **detection** means 25. In addition, also the position of the **vehicle** body 11 in a running operation is always detected by a **vehicle** -body-position detection means 15. Consequently, the position of the radar antenna 12 on a running face can be found always precisely on the basis of detected values. When a detection signal which is **detected** while the **radar** antenna 12 is being scanned, is displayed on a display device 32 as an image, the state of an underground buried object or the state of a pipe or the like which is arranged and installed under a floor or in a wall surface, can be grasped precisely.

8/5/18 (Item 18 from file: 347)
DIALOG(R)File 347:JAPIO

05027599 **Image available**
OBSTACLE DETECTOR FOR **VEHICLE**

PUB. NO.: 07-320199 [JP 7320199 A]
PUBLISHED: December 08, 1995 (19951208)
INVENTOR(s): ASAYAMA YOSHIAKI
APPLICANT(s): MITSUBISHI ELECTRIC CORP [000601] (A Japanese Company or

Corporation), JP (Japan)
APPL. NO.: 06-112798 [JP 94112798]
FILED: May 26, 1994 (19940526)
INTL CLASS: [6] G08G-001/16; B60R-021/00; G01B-011/02; G01C-003/06; **G01S-017/93** ; G06T-007/00; G06T-001/00
JAPIO CLASS: 22.3 (MACHINERY -- Control & Regulation); 26.2 (TRANSPORTATION -- Motor **Vehicles**); 44.9 (COMMUNICATION -- Other); 45.9 (INFORMATION PROCESSING -- Other); 46.1 (INSTRUMENTATION -- Measurement
JAPIO KEYWORD: R002 (LASERS)

ABSTRACT

PURPOSE: To provide an obstacle detector for **vehicle** which improves the accuracy of user's own **vehicle** control and has a high detection reliability by detecting not only the distance to and the width of an object like an obstacle but also its height.

CONSTITUTION: The distance and the width of the object like an obstacle are **detected** by a laser **radar** distance **detector** 1, and the distance to the object caught by the window set by a window setting circuit 4 is detected by a distance detection circuit 23 of a **stereo** camera device 2. A window corresponding to the distance detection value of the **stereo** camera device 2 which coincides with the distance calculation value of the laser **radar** distance **detector** 1 is selected by a size decision device 3, and the size of the object is disdecided based on the set position of this window.

8/5/19 (Item 19 from file: 347)
DIALOG(R)File 347:JAPIO

04692330 **Image available**
DISTANCE/RELATIVE SPEED **DETECTION** CIRCUIT AND **RADAR** EQUIPMENT FOR **VEHICLE** USING IT

PUB. NO.: 07-012930 [JP 7012930 A]
PUBLISHED: January 17, 1995 (19950117)
INVENTOR(s): SUGAWARA JUNJI
APPLICANT(s): JAPAN RADIO CO LTD [000433] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 05-149664 [JP 93149664]
FILED: June 22, 1993 (19930622)
INTL CLASS: [6] **G01S-013/60** ; **G01S-013/28** ; **G01S-0**13/32
JAPIO CLASS: 44.9 (COMMUNICATION -- Other); 26.2 (TRANSPORTATION -- Motor **Vehicles**)
JAPIO KEYWORD: R002 (LASERS)

ABSTRACT

PURPOSE: To detect the distance to an object from its own **vehicle** and relative speed of the object against its own **vehicle** without using any costas loop, etc.
CONSTITUTION: A delayed PN(pseudo noise) code delayed against a PN code used for phase modulation at the time of transmission is generated by means of a PN generator 28 and delay circuit 30. Received signals outputted from an reception antenna 30 are multiplied by the delayed PN code by means of a multiplier 26 after the frequency of the signals is converted into a first IF signal by means of a frequency conversion circuit 24. The output of the multiplier 26 is limited in band and, by discriminating the correlation of the signals obtained by limiting the band, the delaying amount

corresponding to the time required for **radio** waves to go to and come back from an object from and to its own **vehicle** is detected. A distance detecting circuit 36 calculates the distance to the object based on the detected delaying amount. The output of the BPF 32 is further frequency-converted by means of another frequency conversion circuit 40 and converted into a voltage by means of an F-V converter 42. The output of the converter 42 contains a voltage component related to a Doppler frequency and a relative speed calculating circuit 44 calculates the relative speed of the object from the component related to the Doppler frequency.

8/5/20 (Item 20 from file: 347)
DIALOG(R)File 347:JAPIO

04565286 **Image available**
EQUIPMENT IN COMMON USE FOR RADAR AND COMMUNICATION

PUB. NO.: 06-237186 [JP 6237186 A]
PUBLISHED: August 23, 1994 (19940823)
INVENTOR(s): KITAGAWA KOJI
APPLICANT(s): KITAGAWA IND CO LTD [461412] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 05-021287 [JP 9321287]
FILED: February 09, 1993 (19930209)
INTL CLASS: [5] H04B-001/04; **G01S-007/02** ; H04B-001/16; H04B-007/26
JAPIO CLASS: 44.2 (COMMUNICATION -- Transmission Systems); 44.9 (COMMUNICATION -- Other)
JOURNAL: Section: E, Section No. 1635, Vol. 18, No. 623, Pg. 29, November 28, 1994 (19941128)

ABSTRACT
PURPOSE: To provide the equipment in common use for radar and communication acting like a radar and a communication equipment through the use of one antenna system.
CONSTITUTION: The antenna system 10 is made up of an antenna element 2, a support rod 4, a motor 6 driving the antenna element 2 around the support rod 4, and a reflecting plate 8 reflecting a **radio** wave radiating from the antenna element 2 in a prescribed direction at the back of a **vehicle** when the antenna element 2 is turned to a position opposite to the reflecting plate by the motor 6. Then usually the antenna element 2 is directed in a direction opposite to the reflecting plate 8 and an output of the antenna is connected to a transmitter-receiver 20 to set a beam angle of the antenna system 10 to a wide angle covering almost entire area at the back of the **vehicle** thereby using a telephone terminal equipment 22, and only when the **vehicle** goes backward, the antenna element 2 is directed in the direction of the reflecting plate 8 and an output of the antenna is connected to a radar signal processing unit 16 to make the beam angle to be narrow and a hindrance object at the rear side of the **vehicle** is **detected** by the **radar** signal processing unit 16.

8/5/21 (Item 21 from file: 347)
DIALOG(R)File 347:JAPIO

04278672 **Image available**
CONTROL DEVICE FOR **VEHICLE**

PUB. NO.: 05-270372 [JP 5270372 A]

PUBLISHED: October 19, 1993 (19931019)
INVENTOR(s): MURASHIGE KAZUHIRO
APPLICANT(s): MAZDA MOTOR CORP [000313] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 04-100733 [JP 92100733]
FILED: March 25, 1992 (19920325)
INTL CLASS: [5] B60T-007/12; B60R-021/00; **G01S-017/88** ; **G01S-015/93**
JAPIO CLASS: 26.2 (TRANSPORTATION -- Motor **Vehicles**0); 37.2 (SAFETY -- Traffic); 44.9 (COMMUNICATION -- Other
JOURNAL: Section: M, Section No. 1546, Vol. 18, No. 41, Pg. 89, January 21, 1994 (19940121)

ABSTRACT

PURPOSE: To perform decision of excessive abnormal approach, to suppress control of the **vehicle** in driving according to the decision, and to more properly decide abnormal approach, in a control device for a **vehicle** which decides abnormal approach of the driver's **car** to a preceding **vehicle** and controls the driver's **vehicle** based on the decision.

CONSTITUTION: Based on signals from a **car** speed **sensor** 6, a **radar** device 10, and a **radio** device 11, the running state of the **vehicle** in driving is decided by a control unit 12 and it is discriminated by the control unit 12 whether a preceding **vehicle** is an automatic brake **vehicle** to perform automatic brake according to its own running state. According to the discriminated result, a necessary intervehicle distance, ensurance of which is needed between a preceding **vehicle** and the driver's own **vehicle** , is varied, and based on the varied intervehicle distance, an oil pressure control unit 14 is controlled to automatically brake the driver's **vehicle** .

8/5/22 (Item 22 from file: 347)
DIALOG(R)File 347:JAPIO

03829593 **Image available**
RADAR SYSTEM FOR **DETECTING** CAVITY UNDER ROAD

PUB. NO.: 04-194693 [JP 4194693 A]
PUBLISHED: July 14, 1992 (19920714)
INVENTOR(s): KIMURA NORIAKI
MURASAWA KANJI
KONISHI MASUO
APPLICANT(s): MITSUI ENG & SHIPBUILD CO LTD [000590] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 02-322409 [JP 90322409]
FILED: November 28, 1990 (19901128)
INTL CLASS: [5] **G01S-013/88**
JAPIO CLASS: 44.9 (COMMUNICATION -- Other); 27.1 (CONSTRUCTION -- Earth Work)
JOURNAL: Section: P, Section No. 1444, Vol. 16, No. 520, Pg. 164, October 26, 1992 (19921026)

ABSTRACT

PURPOSE: To enable execution of detection even in high-speed running by outputting a **radio** wave from a radar apparatus every time when a pulse signal is generated from a rotary encoder fitted to an axle and by processing data thereof on a real time basis.

CONSTITUTION: A rotary encoder 2 delivers a pulse signal corresponding to a

running speed of a **vehicle** 1 and a radar apparatus 4 outputs a **radio** wave every time when the pulse signal is supplied thereto. When the **vehicle** 1 runs, the pulse signal is delivered from the encoder 2 and supplied to the apparatus 4, and every time when supplied with the signal, the apparatus delivers the **radio** wave from an antenna 3. This **radio** wave is emitted into the ground and turns to be a reflection wave according with the state of the underground, and it is caught by the antenna 3 again, received by the apparatus 4, outputted as an analog signal therefrom, subjected to A/D conversion 5 and then is analyzed 6 and recorded 7. Then, it is printed 10 and displayed 11. According to this constitution, a real-time processing is executed sufficiently on the basis of intermittent data, necessary data are obtained even in high-speed running, and it is possible to prevent traffic backup and further to secure traffic safety.

8/5/23 (Item 23 from file: 347)
DIALOG(R)File 347:JAPIO

02905086 **Image available**
METHOD FOR CONFIRMING WALKER BY **RADIO** WAVE, **RADIO** WAVE TRANSMITTER CARRIED BY WALKER SIDE AND **RADIO** WAVE RECEIVER MOUNTED ON **VEHICLE** SIDE

PUB. NO.: 01-202686 [JP 1202686 A]
PUBLISHED: August 15, 1989 (19890815)
INVENTOR(s): HATTORI HIROSHI
APPLICANT(s): HATTORI HIROSHI [000000] (An Individual), JP (Japan)
APPL. NO.: 63-027207 [JP 8827207]
FILED: February 08, 1988 (19880208)
INTL CLASS: [4] G01V-003/12; **G01S-0**03/04
JAPIO CLASS: 46.1 (INSTRUMENTATION -- Measurement); 26.2 (TRANSPORTATION -- Motor **Vehicles**); 44.9 (COMMUNICATION -- Other
JOURNAL: Section: P, Section No. 958, Vol. 13, No. 502, Pg. 145, November 13, 1989 (19891113)

ABSTRACT

PURPOSE: To prevent an accident, by allowing a walker to carry a transmitter for emitting an intermittent **radio** wave to a running **vehicle** and receiving the **radio** wave emitted from the walker on board the **vehicle** side to confirm the approach of the walker.

CONSTITUTION: A **radio** wave transmitter carried by a walker side is integrally constituted of a transmitter 1, a power supply 2, a switch 3 and a red lamp or reflecting plate while a **radio** wave receiver 5 is mounted on a **vehicle** . For example, the frequency of the transmitter 1 is preliminarily allowed to coincide with that of a speeding control **radar** **detector** and the walker closes the switch 3 to emit a **radio** wave which is, in turn, received on the **vehicle** side to emit an alarm to a driver. Therefore, an accident can be prevented.

8/5/24 (Item 24 from file: 347)
DIALOG(R)File 347:JAPIO

02788485 **Image available**
RADAR **SENSOR** FOR SHORT DISTANCE

PUB. NO.: 01-086085 [JP 1086085 A]
PUBLISHED: March 30, 1989 (19890330)

INVENTOR(s): MAKIMOTO MITSUO
ANDO AKIRO
APPLICANT(s): MATSUSHITA ELECTRIC IND CO LTD [000582] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 62-245173 [JP 87245173]
FILED: September 29, 1987 (19870929)
INTL CLASS: [4] **G01S-013/34**
JAPIO CLASS: 44.9 (COMMUNICATION -- Other); 26.2 (TRANSPORTATION -- Motor **Vehicles**)
JOURNAL: Section: P, Section No. 900, Vol. 13, No. 316, Pg. 40, July 18, 1989 (19890718)

ABSTRACT

PURPOSE: To enhance measuring accuracy by directly inputting a transmitting wave and a receiving wave to a mixer or converting the frequencies of both waves to low definite intermediate frequencies and subsequently multiplying the same before inputting said waves.

CONSTITUTION: Multipliers 113, 114 are inserted between a power distributor 103 and a mixer 112 as well as between a receiving amplifier 110 and the mixer 112. When multiplying order is set to N, the frequency deflection .delta.F of a transmitting wave and a receiving wave becomes N-times and, therefore, .delta.F is apparently shown by N..delta.F and heat frequency f(sub b) also is amplified N-times. Therefore, the enhancement of measuring accuracy can be effectively achieved while the frequency deflection of a **radio** wave propagating through air actually is set as it is.

8/5/25 (Item 25 from file: 347)
DIALOG(R)File 347:JAPIO

01903829 **Image available**
ON-ROAD EQUIPMENT FOR **RADIO** COMMUNICATION BETWEEN ON-ROAD EQUIPMENTS HAVING **VEHICLE DETECTION RADAR** FUNCTION

PUB. NO.: 61-117929 [JP 61117929 A]
PUBLISHED: June 05, 1986 (19860605)
INVENTOR(s): ISHII YASUHIRO
APPLICANT(s): OKI ELECTRIC IND CO LTD [000029] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 59-238126 [JP 84238126]
FILED: November 12, 1984 (19841112)
INTL CLASS: [4] H04B-007/26; **G01S-013/50** ; H04B-005/00
JAPIO CLASS: 44.2 (COMMUNICATION -- Transmission Systems); 26.2 (TRANSPORTATION -- Motor **Vehicles**); 44.9 (COMMUNICATION -- Other
JOURNAL: Section: E, Section No. 445, Vol. 10, No. 302, Pg. 148, October 15, 1986 (19861015)

ABSTRACT

PURPOSE: To attain simplicity and miniaturization by using a plane type print antenna for circularly polarized wave for two-terminal drive for both transmission and reception in common while a circularly polarized wave is used for all **radio** propagation in three operations of an on-road equipment so as to use a carrier oscillator in common in the three operations.

CONSTITUTION: Two terminals A, B of the TEM two-terminal drive plane type circularly polarized wave print antenna 31 are connected to a hybrid

circuit 32 and two terminals C, D of the hybrid circuit 32 are terminals from which circularly polarized waves having opposite rotatory directions are driven. A circulator 33 using the antenna in common for transmission/reception is connected to the drive terminal C and a radar wave receiver 34 is connected to the terminal D. A carrier oscillator 37 and a transmission modulator 36 are connected to a transmission port of the circulator 33, and an output of the carrier oscillator 37 is transmitted by pulse modulation by a transmission modulator 36 or by no modulation depending on the radar system. Further, the transmission port circuit is used entirely in common for two-way information communication between on-**vehicle** equipment.

8/5/26 (Item 26 from file: 347)
DIALOG(R)File 347:JAPIO

01903828 **Image available**
ON-ROAD EQUIPMENT FOR **RADIO** COMMUNICATION BETWEEN ON-ROAD EQUIPMENTS HAVING **VEHICLE DETECTING RADAR** FUNCTION

PUB. NO.: 61-117928 [JP 61117928 A]
PUBLISHED: June 05, 1986 (19860605)
INVENTOR(s): ISHII YASUHIRO
APPLICANT(s): OKI ELECTRIC IND CO LTD [000029] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 59-238125 [JP 84238125]
FILED: November 12, 1984 (19841112)
INTL CLASS: [4] H04B-007/26; G01S-013/50 ; H04B-005/00
JAPIO CLASS: 44.2 (COMMUNICATION -- Transmission Systems); 26.2 (TRANSPORTATION -- Motor **Vehicles**); 44.9 (COMMUNICATION -- Other
JOURNAL: Section: E, Section No. 445, Vol. 10, No. 302, Pg. 148, October 15, 1986 (19861015)

ABSTRACT

PURPOSE: To attain simplicity and miniaturization by using a plane type print antenna having two terminals from a signal of which two orthogonally, linearly polarized waves are driven as a transmission/reception antenna in common for an on-load equipment, selecting optimizingly the polarized plane at each operation respectively and using a carrier oscillator in common for the following three operations.

CONSTITUTION: The plane type print antenna 31 has TEM two terminals A, B from which linearly polarized waves orthogonal to each other are driven. A circulator 32 branching reception/transmission signal at the terminal A is connected to the terminal A, the received wave at the terminal A is led to a radar wave receiver 33 and a transmission wave form the terminal A is transmitted while an output of the carrier oscillator 35 is amplitudemodulated by a transmission modulator 34. The carrier oscillator 35 is used is common to the three operations above of the on-road equipment, that is, **vehicle detecting radar** operation, and information communication from the on-road equipment to an on-**vehicle** equipment and vice versa. A receiver 36 receiving a transmission wave from the on-**vehicle** equipment is connected to the terminal B.

8/5/27 (Item 27 from file: 347)
DIALOG(R)File 347:JAPIO

00267090
DOPPLER **RADAR** FOR **VEHICLE** SPEED **DETECTION**

PUB. NO.: 53-069090 [JP 53069090 A]
PUBLISHED: June 20, 1978 (19780620)
INVENTOR(s): OKADA TSUGUHIRO
ENDO AKIRA
APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 51-143366 [JP 76143366]
FILED: December 01, 1976 (19761201)
INTL CLASS: [2] **G01S-009/44**
JAPIO CLASS: 46.1 (INSTRUMENTATION -- Measurement); 26.2 (TRANSPORTATION -- Motor **Vehicles**); 37.2 (SAFETY -- Traffic
JAPIO KEYWORD: R068 (TRANSPORTATION -- Anti-skid, Anti-lock Devices)
JOURNAL: Section: E, Section No. 53, Vol. 02, No. 104, Pg. 5409, August 26, 1978 (19780826)

ABSTRACT

PURPOSE: To enable to increase the electric power of emitted **radio** wave without increasing the intensity of radiated **radio** wave in the air, by striking the bottom face of **vehicle** against reflected wave and carrying out diffused reflection of **radio** wace to the road again, on occasion of detecting ground speed of **vehicle** by Doppler radar.

8/5/28 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

016103202 **Image available**
WPI Acc No: 2004-261078/200425
XRAM Acc No: C04-102854
XRPX Acc No: N04-207319
Vehicle **-mounted radar has conductor provided at position outside** radio **-wave beam path, connected to heat emission unit**
Patent Assignee: HITACHI LTD (HITA)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 2004020514	A	20040122	JP 2002179510	A	20020620	200425	B

Priority Applications (No Type Date): JP 2002179510 A 20020620
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2004020514	A		9	G01S-007/03	

Abstract (Basic): JP 2004020514 A

NOVELTY - A conductor (23) provided at radome (3) at the position outside the **radio** -wave beam path, is connected to the heat emission unit (22).

USE - **Vehicle** -mounted radar.

ADVANTAGE - Ensures sufficient **detection** capability of **radar** without adhesion of snow and ice, since the heat required to melt snow and ice is supplied from heat emission unit through conductor.

DESCRIPTION OF DRAWING(S) - The figure shows a structural view of the radar. (Drawing includes non-English language text).

housing (1)

transmission and reception antenna surface (2)

radome (3)
heat emission unit (22)
conductor (23)
pp; 9 DwgNo 1/9
Title Terms: **VEHICLE** ; MOUNT; RADAR; CONDUCTOR; POSITION; **RADIO** ; WAVE; BEAM; PATH; CONNECT; HEAT; EMIT; UNIT
Derwent Class: A85; W06; X22; X25
International Patent Class (Main): **G01S-007/03**
File Segment: CPI; EPI

8/5/29 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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015924427 **Image available**
WPI Acc No: 2004-082267/200408
Related WPI Acc No: 2004-082344; 2004-082348
XRPX Acc No: N04-065652
Disturbance suppression system for car **optical, ultrasonic and** radar **object** detections **systems uses multiple step sliding median non linear digital filter**
Patent Assignee: AUTOMOTIVE DISTANCE CONTROL SYSTEMS GMBH (AUTO-N)
Inventor: WINTERMANTEL M
Number of Countries: 104 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 2003107035	A2	20031224	WO 2003DE2046	A	20030618	200408	B

Priority Applications (No Type Date): DE 1050607 A 20020618
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 2003107035	A2	G	30	G01S-013/50	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

Abstract (Basic): WO 2003107035 A2
NOVELTY - A disturbance suppression system for optical, ultrasonic or **radar** object **detection** systems has a pulse Doppler radar with pseudo random transmission time sequences using appropriate range gates and non linear digital filtering (7) using a multiple step sliding median filter to suppress transient pulses from other radar systems.
USE - Rejection of pulses from similar systems in **car** object detection systems for speed and distance control.
ADVANTAGE - The non linear filtering removes interfering pulses from similar systems in other **cars** .
DESCRIPTION OF DRAWING(S) - The drawing is a block diagram of a pulse Doppler radar system with non linear digital filtering. (Drawing includes non English language text)
Radio Frequency part (1)
Analogue area (4)
Filter against pulse disturbances (7)
Object tracking (12)
Detection threshold determination (15)

FFT (Fast Fourier Transform) windowing (16)
Disturbance line measurement (17)
pp; 30 DwgNo 3/12
Title Terms: DISTURB; SUPPRESS; SYSTEM; **CAR** ; OPTICAL; ULTRASONIC; RADAR; OBJECT; DETECT; SYSTEM; MULTIPLE; STEP; SLIDE; MEDIAN; NON; LINEAR; DIGITAL; FILTER
Derwent Class: S02; U22; W06; X22
International Patent Class (Main): **G01S-013/50**
File Segment: EPI

8/5/30 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015861926 **Image available**
WPI Acc No: 2004-019756/200402
XRPX Acc No: N04-015135
Object detection **apparatus in** radar detection **system, correlates direction of** radio **frequency scanning beam with the magnitude of beam reflected from object in predetermined scan path, to generate spatial information of object**
Patent Assignee: UNIV CALIFORNIA (REGC)
Inventor: LASKY T A; RAVANI B; TABIB S; SHAHRDAD T
Number of Countries: 103 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6621448	B1	20030916	US 2002117988	A	20020405	200402	B
WO 200388008	A2	20031023	WO 2003US9489	A	20030328	200402	
US 20030189511	A1	20031009	US 2002117988	A	20020405	200402	

Priority Applications (No Type Date): US 2002117988 A 20020405
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6621448	B1		18	G01S-013/88	
WO 200388008	A2	E		G06F-000/00	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

US 20030189511	A1	G01S-013/04

Abstract (Basic): US 6621448 B1
NOVELTY - A **radio** frequency (RF) transmitter and beam scanning device generate RF scanning beam over predetermined scan path. An RF receiver and a computer (22) detect the magnitude of a reflection of beam from an object in the scan path and correlate direction of scanning beam with reflection magnitude and generate spatial information regarding the object, using the correlation.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for method of detecting objects whose visibility is obscured by a layer of snow.
USE - In **radar detection** systems of **vehicles** and aircrafts, for detecting objects that are obscured beneath covering of snow.
ADVANTAGE - The apparatus does not require physical movement of an antenna over snow surface for generating objects images in real-time

with high image quality. Object imaging is performed without necessity of extensive signal processing due to which, the apparatus cost is low.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of an imaging system that uses electronic beam scanning.
computer (22)
analog to digital computer (30)
RF waveform generator (36)
lens (44)
antenna array (56)
pp; 18 DwgNo 4/7

Title Terms: OBJECT; DETECT; APPARATUS; RADAR; DETECT; SYSTEM; CORRELATE; DIRECTION; **RADIO** ; FREQUENCY; SCAN; BEAM; MAGNITUDE; BEAM; REFLECT; OBJECT; PREDETERMINED; SCAN; PATH; GENERATE; SPACE; INFORMATION; OBJECT
Derwent Class: T01; W02; W06; X22
International Patent Class (Main): **G01S-013/04** ; **G01S-013/88** ; G06F-000/00
International Patent Class (Additional): **G01S-013/89** ; 1G01S-013/90 ; G01V-003/12
File Segment: EPI

8/5/31 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015584028 **Image available**
WPI Acc No: 2003-646185/200361
XRPX Acc No: N03-513993
Vehicle **mounted** radar **has controller that** detects **orientation of target in plane depending on attitude of antenna and reflected wave from target**
Patent Assignee: HITACHI LTD (HITA)
Inventor: KURODA H; TAKANO K
Number of Countries: 023 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200365072	A1	20030807	WO 2002JP590	A	20020128	200361	B

Priority Applications (No Type Date): WO 2002JP590 A 20020128
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200365072	A1	J	35	G01S-013/93	

Designated States (National): CN JP KR US
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
Abstract (Basic): WO 200365072 A1
NOVELTY - The radar has an antenna which transmits a **radio** wave and receives the reflected wave from a target. A rotating unit rotates the antenna about an axis in the transmitting direction of the **radio** wave. A controller detects the orientation of a target in a plane depending on the attitude of the antenna and the reflected wave.
USE - **Vehicle** mounted radar.
DESCRIPTION OF DRAWING(S) - The drawing shows a schematic view of the radar. (Drawing includes non-English language text).
pp; 35 DwgNo 14/15
Title Terms: **VEHICLE** ; MOUNT; RADAR; CONTROL; DETECT; ORIENT; TARGET; PLANE; DEPEND; ATTITUDE; ANTENNA; REFLECT; WAVE; TARGET
Derwent Class: W06; X22
International Patent Class (Main): **G01S-013/93**

International Patent Class (Additional): **G01S-013/32**
File Segment: EPI

8/5/32 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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015366971 **Image available**
WPI Acc No: 2003-427909/200340
Wide band radar detector **with which weather** radio **is combined**
Patent Assignee: BG TECH CO LTD (BGTE-N)
Inventor: LEE G S
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
KR 2003013744	A	20030215	KR 200147920	A	20010809	200340	B

Priority Applications (No Type Date): KR 200147920 A 20010809
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
KR 2003013744	A		1	G01S-013/93	

Abstract (Basic): KR 2003013744 A

NOVELTY - A wide band **radar detector** with which a weather **radio** is combined is provided to prevent an accident and guide a stable driving by precisely judging a traffic situation while a driver drives a **car** and coping with a change of a weather.

DETAILED DESCRIPTION - A horn antenna(110) receives a signal. A signal processor(120) detects the signal received by the horn antenna(110). A laser module(130) receives a laser signal. A central processing unit(140) controls operations of the signal processor(120) and the laser module(130). An eyesight display device(150) visually displays the signal detected by the signal processor(120). A sound display device(160) outputs the detected signal to a speaker(162). A weather antenna(210) receives a weather broadcasting. A PLL controller(220) provides PLL(phase locked loop) data. A **radio** signal detector(230) is connected to the PLL controller(220) detects the received weather broadcasting according to the PLL data.

pp; 1 DwgNo 1/10

Title Terms: WIDE; BAND; RADAR; DETECT; WEATHER; **RADIO** ; COMBINATION
Derwent Class: W06; X22
International Patent Class (Main): **G01S-013/93**
File Segment: EPI

8/5/33 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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015105152 **Image available**
WPI Acc No: 2003-165669/200316
XRPX Acc No: N03-130808
Vehicle **alerting system e.g. for** car , **provides warning signals and reduces volume level of a speaker of** car stereo **system when presence of police** radar **signal is** detected
Patent Assignee: KROCULICK K (KROC-I)
Inventor: KROCULICK K
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020126038	A1	20020912	US 2001273989	P	20010307	200316 B
			US 2001903074	A	20010711	

Priority Applications (No Type Date): US 2001273989 P 20010307; US 2001903074 A 20010711
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020126038	A1		13	G01S-007/42	Provisional application US 2001273989

Abstract (Basic): US 20020126038 A1

NOVELTY - A **radar detector** within a housing (1) mounted to the dash board of the **vehicle detects** presence of police **radar** signals. A warning unit comprising a liquid crystal display and an audio circuit provides visual warning signal and audible warning signal when police **radar** signals are **detected** . A muting circuit reduces volume level of speaker of the **car stereo** system when police **radar** signals are **detected** .

USE - **Vehicle** alerting system with **radar** signal **detection** capability for use with **car stereo** system. Also used in van, truck, motorcycle, four wheeler or snowmobile

ADVANTAGE - Eliminates need to install/uninstall **radar detector** prior to and after each trip. Usage of **vehicle** 's antenna and auxiliary antenna increase **radar detection** capabilities. Reduces potential for theft and vandalism. Radar emitters are installed at road construction sites to warn drivers of road work hence increases driver awareness and safety. The system's ability to over ride and automatically mute the **stereo** amplifier system and the ability to use the **stereo** portion or **radar detector** portion independently enables each driver to regulate the system as desired.

DESCRIPTION OF DRAWING(S) - The figure shows an explanatory view of the front panel of the **vehicle** alerting system.

Housing (1)

pp; 13 DwgNo 2/6

Title Terms: **VEHICLE** ; ALERT; SYSTEM; **CAR** ; WARNING; SIGNAL; REDUCE; VOLUME; LEVEL; SPEAKER; **CAR** ; **STEREO** ; SYSTEM; PRESENCE; POLICE; RADAR; SIGNAL; DETECT
Derwent Class: W03; W05; W06; X22
International Patent Class (Main): **G01S-007/42**
File Segment: EPI

8/5/34 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015030190 **Image available**
WPI Acc No: 2003-090707/200308
XRPX Acc No: N03-071669
Networked radar detection **system combines information received from location detection circuitry with signals** detected **by** radar detector

Patent Assignee: SINGER N (SING-I)
Inventor: SINGER N
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020135504	A1	20020926	US 2001282530	P	20010409	200308 B
			US 2002118702	A	20020409	

Priority Applications (No Type Date): US 2001282530 P 20010409; US 2002118702 A 20020409
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
US 20020135504 A1 11 G01S-007/40 Provisional application US 2001282530

Abstract (Basic): US 20020135504 A1

NOVELTY - A **radar detector** (10) includes an electrical circuitry (12) for **detecting** various **radar** , laser and traffic signals. A location detection circuitry (13) determines the position location of the **radar detector** . A processor (16) combines the information received from the location detection circuitry with signals **detected** by the **radar detector** . Signals may be exchanged between sensors in the same **vehicle** or more widely-distributed ones, e.g. via a satellite or other **radio** link.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(1) Electromagnetic signal detection method;

(2) Electromagnetic signal processing method; and

(3) Speed-detection alert system.

USE - As a networked **detection** system for police **radar** and laser **detectors** , based on detection of an emitted speed measurement signal and sounding an audio or visual alarm or warning to the **vehicle** driver.

ADVANTAGE - Improves detection sensitivity and reduces false detection alarms by combining information received from location detection circuitry with signals **detected** by **radar detector** .

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of the networked **radar detection** system.

Radar detector (10)

Electrical circuitry (12)

Location detection circuitry (13)

Processor (16)

pp; 11 DwgNo 4/4

Title Terms: RADAR; DETECT; SYSTEM; COMBINATION; INFORMATION; RECEIVE; LOCATE; DETECT; CIRCUIT; SIGNAL; DETECT; RADAR; DETECT
Derwent Class: T01; W06; X22
International Patent Class (Main): **G01S-007/40**
File Segment: EPI

8/5/35 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013947413 **Image available**
WPI Acc No: 2001-431627/200146
Related WPI Acc No: 1999-540343; 2000-463668; 2002-546307
XRPX Acc No: N01-319775

Pulse radar used in vehicle **warning system, has RF oscillator coupled to transmit antenna through switch operated by pulse generator, and receiver for computing time required to traverse from trailing edge of pulse**

Patent Assignee: AMERIGON INC (AMER-N)
Inventor: BELL D A; DELACUEVA J; TAUR R R
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6232910	B1	20010515	US 98253468	A	19980219	200146	B
			US 9875402	A	19980220		

US 9827996	A	19980223
US 98106238	A	19980629
US 98169679	A	19981009

Priority Applications (No Type Date): US 9875402 P 19980220; US 98253468 A 19980219; US 9827996 A 19980223; US 98106238 A 19980629; US 98169679 A 19981009

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6232910	B1		56	G01S-013/93	Provisional application US 9875402 CIP of application US 9827996 CIP of application US 98106238 CIP of application US 98169679 CIP of patent US 6069581

Abstract (Basic): US 6232910 B1

NOVELTY - The transmit pulse generator transmits **radio** frequency pulse with leading and trailing edges. The received signals are passed to receiver which measures a range to a target, by calculating time required for RF pulse to traverse a path from transmit antenna to target, finally reaching the receive antenna. The time calculation is performed based on detection of trailing edge of pulse.

DETAILED DESCRIPTION - **Radio** frequency oscillator is connected to transmit antenna through transmit switch which is operated by output of transmit pulse generator. INDEPENDENT CLAIMS are also included for the following:

(a) Method of using pulse radar to search for targets;

(b) **Radar sensor** for tracking and discriminating Doppler shifted targets;

(c) Array of light sources to be placed in field of view of antenna;

(d) Method for transmitting RF electromagnetic energy;

(e) Lane change aid system

USE - Used in **vehicle** warning system. Also used in home security systems, automatic door opening systems, elevator systems, crossing-light systems, watercraft, aircraft, mobile robots, spacecrafts, planetary explorer robots.

ADVANTAGE - Bandwidth of pulse is reduced by reducing rise time of leading edge, increasing the duration of pulse. By reducing amount of data and by allowing simpler, slower digital signal processor to process the data, system cost and complexity are reduced. Manufacturability and stability of radar system are improved by replacing analog processing with digital processing.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of backup warning radar system that uses **radar sensors** .

pp; 56 DwgNo 14/22

Title Terms: PULSE; RADAR; **VEHICLE** ; WARNING; SYSTEM; RF; OSCILLATOR; COUPLE; TRANSMIT; ANTENNA; THROUGH; SWITCH; OPERATE; PULSE; GENERATOR; RECEIVE; COMPUTATION; TIME; REQUIRE; TRAVERSE; TRAILING; EDGE; PULSE

Derwent Class: T07; W05; W06; X22; X25

International Patent Class (Main): **G01S-013/93**

File Segment: EPI

8/5/36 (Item 9 from file: 350)

DIALOG(R)File 350:Derwent WPIX

013929711 **Image available**

WPI Acc No: 2001-413925/200144

XRPX Acc No: N01-306372

Radar detection **system mounted in** vehicles **such as** car , **has electric power control unit to restrain power consumption of** radar detector **when** detected **engine speed is less than preset speed**

Patent Assignee: FUNAI DENKI KENKYUSHO KK (FUNA-N); FUNAI DENKI KK (FUNA-N)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 2001133539	A	20010518	JP 99317722	A	19991109	200144	B

Priority Applications (No Type Date): JP 99317722 A 19991109
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2001133539	A		10	G01S-007/40	

Abstract (Basic): JP 2001133539 A

NOVELTY - The rotation detector (3) detects the speed of engine in **vehicles** . The detected speed is received by receiver in **radar detector** (2). A discrimination unit judges whether the received speed is more than preset engine speed. When the received speed is less than preset engine speed, an electric power control unit restrains power consumption of **radar detector** .

USE - For controlling power supply to electronic devices such as **stereo** system, cigar lighter socket, etc., mounted in **vehicles** such as **car** .

ADVANTAGE - Since power consumption of **radar detector** is restrained when received engine speed is less than preset speed, power saving is enabled without any reduction in efficiency of **radar detection** system.

DESCRIPTION OF DRAWING(S) - The figure shows the perspective diagram of **radar detection** system.

Radar detector (2)
Rotation detector (3)
pp; 10 DwgNo 1/5

Title Terms: RADAR; DETECT; SYSTEM; MOUNT; **VEHICLE** ; **CAR** ; ELECTRIC; POWER; CONTROL; UNIT; RESTRAIN; POWER; CONSUME; RADAR; DETECT; DETECT; ENGINE; SPEED; LESS; PRESET; SPEED
Derwent Class: S02; T07; W06; X22
International Patent Class (Main): **G01S-007/40**
International Patent Class (Additional): G01P-003/44; G08G-001/052
File Segment: EPI

8/5/37 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013446310 **Image available**
WPI Acc No: 2000-618253/200059
XRPX Acc No: N00-458102

Stationary object distinguishing method in radar system, involves distinguishing object to be stationary, if determined amount of power in signal reflected from object, is concentrated at frequency above threshold

Patent Assignee: EATON VORAD TECHNOLOGIES LLC (EAYT)
Inventor: MCDADE J C
Number of Countries: 091 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6121916	A	20000919	US 99356251	A	19990716	200059	B
WO 200106276	A1	20010125	WO 2000IB1117	A	20000712	200107	

AU 200061772 A 20010205 AU 200061772 A 20000712 200128

Priority Applications (No Type Date): US 99356251 A 19990716
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
US 6121916 A 17 G01S-013/93
WO 200106276 A1 E G01S-013/93
Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
AU 200061772 A G01S-013/93 Based on patent WO 200106276

Abstract (Basic): US 6121916 A

NOVELTY - A radar system mounted on a **vehicle** transmits **radio** frequency signal at a squint angle of 60 degrees. The radar system receives the reflected transmitted signal. The amount of power at selected frequencies in the received signal is determined. An object which reflects the signal is distinguished as stationary object, when the determined power is concentrated at a frequency above preset frequency threshold.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for side looking radar system.

USE - For use in **radar** system for **detecting** motor **vehicle** on road way.

ADVANTAGE - Since the stationary objects such as traffic signs, parked **cars** , guard rails, etc can be distinguished from moving objects, the radar system does not generate nuisance indications in response to stationary objects.

DESCRIPTION OF DRAWING(S) - The figure shows the flowchart for stationary object determining method.

pp; 17 DwgNo 11/12

Title Terms: STATIONARY; OBJECT; DISTINGUISH; METHOD; RADAR; SYSTEM; DISTINGUISH; OBJECT; STATIONARY; DETERMINE; AMOUNT; POWER; SIGNAL; REFLECT; OBJECT; CONCENTRATE; FREQUENCY; ABOVE; THRESHOLD
Derwent Class: W06; X22
International Patent Class (Main): **G01S-013/93**
International Patent Class (Additional): **G01S-013/52**
File Segment: EPI

8/5/38 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013291733 **Image available**
WPI Acc No: 2000-463668/200040
Related WPI Acc No: 1999-540343; 2001-431627; 2002-546307
XRPX Acc No: N00-345839

Automotive radar includes controller to set time delay and gain of programmable time delay and programmable gain amplifier respectively and to trigger transmit pulse generator

Patent Assignee: AMERIGON INC (AMER-N)
Inventor: BELL D A; DELACUEVA J; LEE K C; LI J M K; TAUR R; TAUR R R
Number of Countries: 002 Number of Patents: 002
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
US 6069581 A 20000530 US 9875402 P 19980220 200040 B

			US 9827996	A	19980223	
JP 2003524751	W	20030819	WO 99US3605	A	19990219	200356
			JP 2000532738	A	19990219	

Priority Applications (No Type Date): US 9875402 P 19980220; US 9827996 A 19980223; US 98106238 A 19980629; US 98169679 A 19981009

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6069581	A		31	G01S-013/00	Provisional application US 9875402
JP 2003524751	W		139	G01S-013/93	Based on patent WO 9942856

Abstract (Basic): US 6069581 A

NOVELTY - The input and output of receive switch which is controlled by output of programmable delay (646) is connected to downconverter output and programmable gain amplifier input respectively. A controller searches for targets at several downrange regions and sets time delay and gain of programmable time delay and programmable gain amplifier respectively and triggers the transmit pulse generator.

DETAILED DESCRIPTION - The transmit switch is configured to connect **radio** frequency oscillator to transmit antenna and is operated by the output of transmit pulse generator. The receive antenna provider received signals to downconverter. A visual display displays downrange information about targets **detected** by **radar** . The controller is connected to programmable time delay, programmable gain amplifier and transmit pulse generator (602). An INDEPENDENT CLAIM is also included for targets searching method.

USE - Automotive radar for use as part of backup warning system and side object warning system, for intelligent air bag deployment system, throttle position system, active suspension system and also for non-**vehicle** applications, such as home security systems, automatic door opening systems, elevator systems, crossing-light system, water-craft, air-craft, mobile robots, space crafts, planetary explorer robots, etc.

ADVANTAGE - Since the radar ignores objects without Doppler shift, stationary targets, usually represent little risk of collision.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of analog section of automotive radar.

Transmit pulse generator (602)

Programmable delay (646)

pp; 31 DwgNo 6B/12

Title Terms: AUTOMOTIVE; RADAR; CONTROL; SET; TIME; DELAY; GAIN; PROGRAM; TIME; DELAY; PROGRAM; GAIN; AMPLIFY; RESPECTIVE; TRIGGER; TRANSMIT; PULSE ; GENERATOR

Derwent Class: Q17; W06

International Patent Class (Main): **G01S-013/00 ; G01S-013/93**

International Patent Class (Additional): B60R-011/02; G08G-001/16

File Segment: EPI; EngPI

8/5/39 (Item 12 from file: 350)

DIALOG(R)File 350:Derwent WPIX

013178315 **Image available**

WPI Acc No: 2000-350188/200030

XRPX Acc No: N00-262392

Moving target simulator for radar system has delay circuit which provides time delay between reception and transmission of radio **frequency signal**

Patent Assignee: NORTHROP GRUMMAN CORP (NOTH)

Inventor: COLLAR S J; HISCHKE M D; KAISER S G

Number of Countries: 022 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200022454	A1	20000420	WO 99US18619	A	19990817	200030	B
US 6067041	A	20000523	US 98172817	A	19981015	200032	
AU 200018069	A	20000501	AU 200018069	A	19990817	200036	
EP 1135698	A1	20010926	EP 99961509	A	19990817	200157	
			WO 99US18619	A	19990817		
AU 759977	B	20030501	AU 200018069	A	19990817	200339	

Priority Applications (No Type Date): US 98172817 A 19981015
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200022454	A1	E	24	G01S-007/40	
Designated States (National): AU IL					
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
AU 200018069	A				Based on patent WO 200022454
EP 1135698	A1	E		G01S-007/40	Based on patent WO 200022454
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
AU 759977	B			G01S-007/40	Previous Publ. patent AU 200018069 Based on patent WO 200022454

Abstract (Basic): WO 200022454 A1

NOVELTY - A digital memory receives and stores the signal from a **radio** frequency receiver. A delay circuit provides a time delay between reception and transmission of the **radio** frequency signal. A modulator modulates the amplitude of the signal. A Doppler modulation circuit outputs a Doppler modulated signal. A **radio** frequency transmitter sends the delayed, amplitude modulated and Doppler modulated signal.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for radar system testing method.

USE - For **radar** system used in **detecting** presence, range and bearing of various targets such as aircraft, missiles, ground **vehicles** such as trucks, tanks, armored troop **vehicles** etc, marine vessels such as surface ships and submarines.

ADVANTAGE - Provides a unique capability to simulate the motion of real physical targets to a contemporary radar system under test, thereby making the test setup simple, convenient and inexpensive.

DESCRIPTION OF DRAWING(S) - The figure shows system block diagram of moving target simulator.

pp; 24 DwgNo 2/2

Title Terms: MOVE; TARGET; SIMULATE; RADAR; SYSTEM; DELAY; CIRCUIT; TIME; DELAY; RECEPTION; TRANSMISSION; **RADIO** ; FREQUENCY; SIGNAL
Derwent Class: W06
International Patent Class (Main): **G01S-007/40**
File Segment: EPI

8/5/40 (Item 13 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013159043 **Image available**
WPI Acc No: 2000-330916/200029
XRPX Acc No: N00-249163

Back up protection sensor e.g. for tractor, has unidirectional antenna with Doppler detection unit operatively coupled to antenna, detection

unit generates radio **frequency signal**
Patent Assignee: EATON CORP (EAYT)
Inventor: MCCLANAHAN D L; PAHL B; ZUERCHER J C
Number of Countries: 027 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 996003	A2	20000426	EP 99307565	A	19990924	200029	B
JP 2000118338	A	20000425	JP 99293824	A	19991015	200031	
US 6130607	A	20001010	US 98175121	A	19981019	200052	

Priority Applications (No Type Date): US 98175121 A 19981019
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 996003	A2	E	22	G01S-013/56	
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
JP 2000118338	A		15	B60R-021/00	
US 6130607	A			B60Q-001/00	

Abstract (Basic): EP 996003 A2
NOVELTY - The sensor has a unidirectional antenna. A Doppler detection unit operatively coupled to the antenna, the detection unit generates a **radio** frequency signal, the antenna radiates the **radio** frequency signal and receives a signal reflected from an object in relative motion with respect to the sensor. The object is within a set detection region, the detection unit generates a sensor output signal responsive to a difference in frequency between the **radio** frequency signal and the reflected signal.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a method for detecting an object near a **vehicle** , a lawn **vehicle** , and a method for enhancing safety of a lawn **vehicle** .
USE - For **vehicle** .
ADVANTAGE - partially discriminates between moving life forms and in an image objects located within predetermined detection region.
DESCRIPTION OF DRAWING(S) - The figure shows a pictorial view of a Doppler **radar sensor** formed in accordance with the invention mounted on a **vehicle** , such as tractor, the pictorial depiction illustrating the use of a Doppler field disturbance sensor to create a detection zone behind the **vehicle** .
pp; 22 DwgNo 1/8
Title Terms: BACK; UP; PROTECT; SENSE; TRACTOR; UNIDIRECTIONAL; ANTENNA; DOPPLER; DETECT; UNIT; OPERATE; COUPLE; ANTENNA; DETECT; UNIT; GENERATE; **RADIO** ; FREQUENCY; SIGNAL
Derwent Class: Q16; W06
International Patent Class (Main): B60Q-001/00; B60R-021/00; **G01S-013/56**
International Patent Class (Additional): A01D-034/64; **G01S-013/93** ; G08B-021/00
File Segment: EPI; EngPI

8/5/41 (Item 14 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012923730 **Image available**
WPI Acc No: 2000-095566/200008
XRPX Acc No: N00-073703
Microwave pulsed radio **frequency oscillator for** radar sensor **for target motion detection**
Patent Assignee: MCEWAN T E (MCEW-I)

Inventor: MCEWAN T E
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5986600	A	19991116	US 9872136	A	19980122	200008 B
			US 9873159	A	19980505	

Priority Applications (No Type Date): US 9872136 P 19980122; US 9873159 A 19980505
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5986600	A		15	G01S-013/56	Provisional application US 9872136

Abstract (Basic): US 5986600 A

NOVELTY - A bias-on signal having voltage level transition between two logic states based on a digital gate output and a quench signal having a similar transition are supplied via signal paths (12,13). The signal paths are coupled to two inputs of an RF oscillator (20). The active element oscillates at an oscilla- tor frequency and stops oscillation based on the bias-on signal and quench signal, respectively.

DETAILED DESCRIPTION - The signal paths have time periods ranging from 1-100 ns set by a time delay.

USE - For radar sensor with range limited Doppler response. For security alarms, home automation and lighting control, indus- trial and robotic controls, automatic toilet and faucet control, automatic door openers, **vehicle** back-up warning and collision detection, wheel and fan blade balancing, shaft vibration sens- ing, loudspeaker sensing and control, guitar string and musical instrument pick-up, vocal cord vibration sensing etc. For body organ motion detection and monitoring such as cardiac motion, arterial pulse and tongue motion.

ADVANTAGE - Provides cost effective low power, long life electronic sensor that is impervious to harsh environmental conditions such as dirt, rain, snow, acoustic noise, external thermal effects and sun light. Provides a fast turn on, fast turn off and well controlled RF burst width microwave pulsed RF oscil- lator capable of producing controlled amplitude outputs, sup- pressed spurious modes and a frequency stable microstrip layout. The oscillation at frequencies lower than the oscillator frequen- cy is suppressed by low value inductor between base/gate and reference node. Noise modulation essentially eliminates the possibility of matching PRF interference from other sensors.

DESCRIPTION OF DRAWING(S) - The figure shows the block dia- gram of pulsed RF oscillator and **radar** motion **detector** .

Signal paths (12,13)
RF oscillator (20)
pp; 15 DwgNo 1/6

Title Terms: MICROWAVE; PULSE; **RADIO** ; FREQUENCY; OSCILLATOR; RADAR; SENSE ; TARGET; MOTION; DETECT
Derwent Class: S05; W04; W05; W06; X22; X25
International Patent Class (Main): **G01S-013/56**
File Segment: EPI

8/5/42 (Item 15 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012724156
WPI Acc No: 1999-530269/199945
XRPX Acc No: N99-393055

Vehicle **or aircraft detector for helicopters**
Patent Assignee: CALAIS S (CALA-I); MARCHAND R L (MARC-I)
Inventor: CALAIS S; MARCHAND R L
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
FR 2774474	A1	19990806	FR 981449	A	19980203	199945	B

Priority Applications (No Type Date): FR 981449 A 19980203
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
FR 2774474	A1		8	G01S-005/00	

Abstract (Basic): FR 2774474 A1

NOVELTY - The detection system uses low frequency vibrations to detect approaching **vehicles** .

DETAILED DESCRIPTION - The system for detecting **vehicles** , esp. helicopters, includes sensors for detecting the vibrating radiation generated by the **vehicle** . These includes acoustic sensors, seismic sensors and hydrophones. The system emits a **radio** -electric coded signal when there is an alarm condition. This **radio** alarm signal is then detected by a device equipped with a decoder, and coupled to an alarm management centre. The system may be specifically configured for certain types of **vehicle** , including low flying and slow moving helicopters, armoured tanks or other heavy loads. The coded alarm signal which is transmitted may be specific to the type of **vehicle** which has been detected.

USE - Detection of aircraft, helicopters, ground **vehicles** or ships.

ADVANTAGE - system has facility to detect low, heavy and slow **vehicles** which may not be readily **detected** by **radar** .

pp; 8 DwgNo 0/0

Title Terms: **VEHICLE** ; AIRCRAFT; DETECT; HELICOPTER
Derwent Class: S03; W06
International Patent Class (Main): **G01S-005/00**
File Segment: EPI

8/5/43 (Item 16 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012481433 **Image available**
WPI Acc No: 1999-287541/199927
XRPX Acc No: N99-214745
Laser range finder targeting system using RF interferometry
Patent Assignee: HONEYWELL INC (HONE)
Inventor: BIRMINGHAM P M; RASKINSKI J E; TRAN M; RASINSKI J E
Number of Countries: 082 Number of Patents: 008
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9917131	A2	19990408	WO 98US20105	A	19980924	199927	B
AU 9919000	A	19990423	AU 9919000	A	19980924	199935	
US 5969676	A	19991019	US 97940623	A	19970930	199950	
NO 200001480	A	20000529	WO 98US20105	A	19980924	200036	
			NO 20001480	A	20000322		
EP 1040362	A2	20001004	EP 98963743	A	19980924	200050	
			WO 98US20105	A	19980924		
JP 2001518627	W	20011016	WO 98US20105	A	19980924	200176	
			JP 2000514144	A	19980924		

AU 752375	B	20020919	AU 9919000	A	19980924	200272
NZ 503645	A	20030530	NZ 503645	A	19980924	200341
			WO 98US20105	A	19980924	

Priority Applications (No Type Date): US 97940623 A 19970930
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9917131	A2	E	32	G01S-005/04	
Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW					
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW					
AU 9919000	A				Based on patent WO 9917131
US 5969676	A			G01S-005/04	
NO 200001480	A			G01S-000/00	
EP 1040362	A2	E		G01S-005/04	Based on patent WO 9917131
Designated States (Regional): BE DE DK FR GB IT NL SE					
JP 2001518627	W		60	G01S-005/04	Based on patent WO 9917131
AU 752375	B			G01S-005/04	Previous Publ. patent AU 9919000
					Based on patent WO 9917131
NZ 503645	A			G01S-005/04	Based on patent WO 9917131

Abstract (Basic): WO 9917131 A2

NOVELTY - The inventive system comprises a dual-RF interferometer, and in addition a laser range finder and terrain database, to determine a RF energy source position. The dual-RFI (**Radio** -Frequency Interferometer) system is passive, and cannot be detected while determining a source position. Two linear arrays of RFI sensors (26,28) are used, located in the same geometric plane, anywhere on a **vehicle** . In-flight calculations transform platform coordinates to local geodetic coordinates, enabling a line-of-sight vector to be determined. An active system, eg. laser range finder (30), may then be used to determine precise range and RF source location.

USE - In active **radar** weapon system for **detecting** -locating RF signal source from moving **vehicle** , eg. aircraft, and communicating to other platforms, such as satellites, ground-stations, etc.

ADVANTAGE - Enables high precision target source direction to be located, using dual-RFI sensors, more efficiently than single-axis RFI sensors, and then accurate determination of position, using eg. laser range finding apparatus, for use by on-board armaments or onward transmission of data to other platforms for coordinated mission execution.

DESCRIPTION OF DRAWING(S) - The drawing shows a block diagram schematic of a RF Interferometer/laser range finder targeting system.

pp; 32 DwgNo 1/12

Title Terms: LASER; RANGE; FINDER; SYSTEM; RF; INTERFEROMETER
Derwent Class: W06; W07
International Patent Class (Main): **G01S-000/00 ; G01S-005/04**
International Patent Class (Additional): **G01S-003/46 ; G01S-003/48 ; G01S-007/02 ; G01S-007/36 ; G01S-013/86 ; G01S-017/02 ; G01S-017/06**
File Segment: EPI

8/5/44 (Item 17 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012041162 **Image available**
WPI Acc No: 1998-458072/199840

XRPX Acc No: N98-357587

Moving objects detection system especially for vehicles **- has detection unit, power supply,** radio **based transmission unit and has security unit for encoding incoming data or for transmitter identification**

Patent Assignee: MANNESMANN AG (MANS); ATX EUROPE GMBH (ATXE-N)
Inventor: HUEGLE T; KOLBERG F
Number of Countries: 024 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 19729915	A1	19980827	DE 1029915	A	19970704	199840	B
EP 866434	A1	19980923	EP 98250052	A	19980216	199842	

Priority Applications (No Type Date): DE 1008470 A 19970219
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 19729915	A1		19	G08G-001/01	
EP 866434	A1	G		G08G-001/0967	

Designated States (Regional): AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

Abstract (Basic): DE 19729915 A

The system includes a detection unit (12), a power supply comprising photovoltaic element (9) and a **radio** based transmission unit (11), all mounted via a common mounting arrangement (13). Preferably, a **radio** based, reception unit is provided which is formed using the GSM standard.

A security unit is provided especially for encoding incoming data or for transmitter identification when receiving commands, configuration or other data. The detection unit is provided for detecting volume, speed, **vehicle** type, **vehicle** length and **vehicle** identity based on infrared, laser, image **detection** , microwave or **radar** techniques.

ADVANTAGE - Provides simple, cheap, easy to mount and to maintain system which is non-susceptible to damage.

Dwg.1/9

Title Terms: MOVE; OBJECT; DETECT; SYSTEM; **VEHICLE** ; DETECT; UNIT; POWER; SUPPLY; **RADIO** ; BASED; TRANSMISSION; UNIT; SECURE; UNIT; ENCODE; INCOMING; DATA; TRANSMIT; IDENTIFY
Derwent Class: T07; W02; W05; W06
International Patent Class (Main): G08G-001/01; G08G-001/0967
International Patent Class (Additional): **G01S-007/03**
File Segment: EPI

8/5/45 (Item 18 from file: 350)

DIALOG(R)File 350:Derwent WPIX

012040362 **Image available**
WPI Acc No: 1998-457272/199839
XRPX Acc No: N98-356843

Method of navigating a non-airborne vehicle **- includes using speed** sensed **by Doppler** radar **and altitude and heading sensed by a set of gyros, with various processes to compensate for any sensor errors**

Patent Assignee: BOEDIGHEIMER D (BOED-I); HAWKINSON W (HAWK-I); KORVER K (KORV-I)
Inventor: BOEDIGHEIMER D; HAWKINSON W; KORVER K
Number of Countries: 075 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week

WO 9836288	A1	19980820	WO 97US2445	A	19970214	199839	B
AU 9732019	A	19980908	AU 9732019	A	19970214	199904	
			WO 97US2445	A	19970214		
EP 975989	A1	20000202	EP 97927587	A	19970214	200011	
			WO 97US2445	A	19970214		

Priority Applications (No Type Date): WO 97US2445 A 19970214
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9836288	A1		30	G01S-005/14	

Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN YU

Designated States (Regional): AT BE CH DE DK EA ES FI FR GB GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG

EP 975989	A1 E		G01S-005/14	Based on patent WO 9836288

Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

AU 9732019	A		G01S-005/14	Based on patent WO 9836288

Abstract (Basic): WO 9836288 A

The method comprises the steps of, providing a position change sensor, sensing the speed of the **vehicle** using the position change sensor, and providing an angular change sensor. The next includes sensing the heading and attitude of the **vehicle** using the angular change sensor, and providing an accelerometer. The next step is correcting the sensed attitude of the **vehicle** using data from the accelerometer, position change sensor and angular change sensor, and determining the position of the **vehicle** based on a known previous position and the sensed speed, heading, and attitude of the **vehicle** . The next step is providing a **radio** navigation system, determining an external position reference using data from the **radio** navigation system, and correcting any error in the determined position of the **vehicle** using the determined external position reference.

The method further comprises the steps of, providing a **radio** navigation antenna for use with the **radio** navigation system, said antenna having a known location relative to a reference point on the **vehicle** . The next step includes determining the position of the **radio** navigation antenna based on the attitude of the **vehicle** and the known location of the antenna relative to the reference point. The final step incudes determining the external position reference using data from the **radio** navigation system and using the determined position of the **radio** navigation antenna.

ADVANTAGE - The system is capable of correcting for the **radio** navigation antenna lever arm errors by using the attitude of the **vehicle** . The system may optionally be used on a ground or water based **vehicle** to provide navigation data and guidance commands to an automatic steering sytstem. The system of the present invention may also be used on a agricultural **vehicle** to guide the **vehicle** through a field in a number of ways.

Dwg.1/7

Title Terms: METHOD; NAVIGATION; NON; AIRBORNE; **VEHICLE** ; SPEED; SENSE; DOPPLER; RADAR; ALTITUDE; HEADING; SENSE; SET; GYRO; VARIOUS; PROCESS; COMPENSATE; SENSE; ERROR

Derwent Class: T01; W06; X22

International Patent Class (Main): **G01S-005/14**

File Segment: EPI

8/5/46 **(Item 19 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

011997353 **Image available**
WPI Acc No: 1998-414263/199835
XRPX Acc No: N98-322378

Detecting **objects with automotive** radar **for avoiding collisions - estimating Doppler shift of received signal and removing shift then re-ordering signal and comparing it to image of transmitted signal**

Patent Assignee: AUTOMOTIVE SYSTEMS LAB INC (AUTO-N)
Inventor: FARMER M E
Number of Countries: 021 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9832029	A1	19980723	WO 98US1246	A	19980117	199835	B
US 5923280	A	19990713	US 9735453	P	19970117	199934	
			US 987992	A	19980116		
EP 953156	A1	19991103	EP 98909980	A	19980117	199951	
			WO 98US1246	A	19980117		
US 6028548	A	20000222	US 9735453	P	19970117	200017	
			US 987992	A	19980116		
			US 99352632	A	19990713		
KR 2000069851	A	20001125	WO 98US1246	A	19980117	200131	
			KR 99706030	A	19990701		
JP 2002513468	W	20020508	JP 98534718	A	19980117	200234	
			WO 98US1246	A	19980117		

Priority Applications (No Type Date): US 987992 A 19980116; US 9735453 P 19970117; US 99352632 A 19990713
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9832029	A1	E	24	G01S-013/93	
Designated States (National): CA JP KR					
Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
US 5923280	A			G01S-013/93	Provisional application US 9735453
EP 953156	A1	E			Based on patent WO 9832029
Designated States (Regional): DE FR GB					
US 6028548	A			G01S-013/93	Provisional application US 9735453
					Cont of application US 987992
					Cont of patent US 5923280
KR 2000069851	A			G01S-013/93	Based on patent WO 9832029
JP 2002513468	W		51	G01S-013/38	Based on patent WO 9832029

Abstract (Basic): WO 9832029 A

The method of detecting objects involves generating a continuous wave **radio** frequency signal with a repetitive sequence of frequencies. The sequence of is random and frequencies are uniformly spaced. The object is illuminated with the **radio** frequency signal. A reflected component is used form a received signal. A complex amplitude of the received signal is measured for each element.

The complex amplitudes for similar frequency elements of the repetitive sequence are collected. Doppler shift of the received signal is calculated and then removed. The list of complex amplitudes is reordered based upon transmitted frequency. A reordered representation of the transmitted signal is formed. Transmitted and received signals are compared.

USE - For safety restraint system.

ADVANTAGE - Reduced risk of harm to occupants of **vehicle** due to airbag. Improved accuracy of detection system. Reduced risk of jamming

caused by other automotive radars.
Dwg.1/10
Title Terms: DETECT; OBJECT; AUTOMOTIVE; RADAR; AVOID; COLLIDE; ESTIMATE; DOPPLER; SHIFT; RECEIVE; SIGNAL; REMOVE; SHIFT; ORDER; SIGNAL; COMPARE; IMAGE; TRANSMIT; SIGNAL
Derwent Class: W06; X22
International Patent Class (Main): **G01S-013/38** ; **G01S-013/93**
International Patent Class (Additional): **G01S-013/34**
File Segment: EPI

8/5/47 (Item 20 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011754822
WPI Acc No: 1998-171732/199816
XRPX Acc No: N98-136548
Ground speed measuring system for vehicle **- has impulse radar transmitting short** radio **frequency pulses without a carrier wave, integrator integrates received reflections from receiver**
Patent Assignee: FORD MOTOR CO LTD (FORD)
Inventor: SMITH G P
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
GB 2318009	A	19980408	GB 9620825	A	19961005	199816	B

Priority Applications (No Type Date): GB 9620825 A 19961005
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
GB 2318009	A		6	G01S-013/60	

Abstract (Basic): GB 2318009 A
The ground speed measuring system has an impulse **radar sensing** system. The system has at least one impulse radar transmitter transmitting a series of short **radio** frequency pulses without a carrier wave and at least one **radio** receiver. The receiver receives reflected signals from the environment surrounding the **vehicle** . An integrator integrates the received reflections over a time period to form a signal at audio frequency.
The dominant frequency of the audio signal is measured to determine the current **vehicle** speed as a function of the dominant frequency, this may be done using digital signal processing techniques or Fast Fourier Transform circuitry. The system may have four radar transmitters and receivers located at the corners of the **vehicle** which provide additional information such as collision warning or as parking aid.
ADVANTAGE - Uses compact easily available sensors which cuts the cost of the system and the circuitry involved is not expensive, this also helps reduce costs. The same sensors may be used as for collision warning and parking aids which reduces hardware costs.
Dwg.0/0
Title Terms: GROUND; SPEED; MEASURE; SYSTEM; **VEHICLE** ; IMPULSE; RADAR; TRANSMIT; SHORT; **RADIO** ; FREQUENCY; PULSE; CARRY; WAVE; INTEGRATE; INTEGRATE; RECEIVE; REFLECT; RECEIVE
Index Terms/Additional Words: **BROADBAND** ; **RADAR**
Derwent Class: S02; W06; X22
International Patent Class (Main): **G01S-013/60**
International Patent Class (Additional): **G01S-013/02**

File Segment: EPI

8/5/48 **(Item 21 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
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010493520 **Image available**
WPI Acc No: 1995-394840/199551
XRPX Acc No: N95-287922

Obstacle detecting system for motor vehicle , **allowing motor** vehicle **control to be effected more appropriately - has obstacle** detecting **system comprising laser** radar **type distance** detector **for detecting distance to object,** stereo **video camera and object size determn. unit**

Patent Assignee: MITSUBISHI DENKI KK (MITQ); MITSUBISHI ELECTRIC CORP (MITQ)
Inventor: ASAYAMA Y
Number of Countries: 004 Number of Patents: 007
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
GB 2289816	A	19951129	GB 959465	A	19950510	199551	B
DE 19518978	A1	19951130	DE 1018978	A	19950523	199602	
JP 7320199	A	19951208	JP 94112798	A	19940526	199607	
US 5633705	A	19970527	US 95434854	A	19950504	199727	
GB 2289816	B	19971119	GB 959465	A	19950510	199749	
DE 19518978	C2	19990610	DE 1018978	A	19950523	199927	
JP 3212218	B2	20010925	JP 94112798	A	19940526	200162	

Priority Applications (No Type Date): JP 94112798 A 19940526
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
GB 2289816	A		22	G08G-001/16	
DE 19518978	A1		10	G01C-003/06	
JP 7320199	A		6	G08G-001/16	
US 5633705	A		9	H04N-007/18	
GB 2289816	B			G08G-001/16	
DE 19518978	C2			G01C-003/06	
JP 3212218	B2		6	G08G-001/16	Previous Publ. patent JP 7320199

Abstract (Basic): GB 2289816 A

The system includes laser **radar** type distance **detecting** unit for detecting distance to object existing in front of **vehicle** , optical imaging unit and object size determn. device for selecting a window corresp. to a distance value which is detected by the optical imaging unit and which coincides with distance value calculated by said laser **radar** type distance **detector** , to determine size of object based on position of selected window.

The windows are preset in a vertical direction on the imaging plane of the optical imaging unit, which is constituted by **stereo** video camera unit including a pair of video cameras disposed in a vertical array. The distance detecting device is designed to detect distance to object on the basis of signals from the video camera in accordance with trigonometric measurement. The optical imaging unit may be constituted by auto-focussing type optical ranging device of image-splitting type.

ADVANTAGE - Capable of detecting not only distance to object and width but also height. Exhibits fault-proof features.

Dwg.1/5

Title Terms: OBSTACLE; DETECT; SYSTEM; MOTOR; **VEHICLE**0 ; ALLOW; MOTOR; **VEHICLE** ; CONTROL; EFFECT; MORE; APPROPRIATE; OBSTACLE; DETECT; SYSTEM; COMPRISE; LASER; RADAR; TYPE; DISTANCE; DETECT; DETECT; DISTANCE; OBJECT; **STEREO** ; VIDEO; CAMERA; OBJECT; SIZE; DETERMINE; UNIT

Derwent Class: Q17; Q18; S02; S03; T07; W06; X22
International Patent Class (Main): G01C-003/06; G08G-001/16; H04N-007/18
International Patent Class (Additional): B60R-021/00; B60T-007/16; G01B-011/02; G01C-003/00; G01C-003/08; G01C-011/06; G01C-011/26; **G01S-017/02** ; **G01S-017/88** ; **G01S-017/89** ; **G01S-017/93** ; G06T-001/00; G06T-007/00
File Segment: EPI; EngPI

8/5/49 (Item 22 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009966324 **Image available**
WPI Acc No: 1994-234037/199428
Related WPI Acc No: 1993-125434
XRPX Acc No: N94-185077
Radar detector **performance verification appts - has three section housing, whose outer surfaces are configured so that each is directed away from other two surfaces**
Patent Assignee: BROCIA R W (BROC-I); DAGATA M (DAGA-I)
Inventor: BROCIA R W; DAGATA M
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5331327	A	19940719	US 92845588	A	19920304	199428 B
			US 931029	A	19930106	

Priority Applications (No Type Date): US 931029 A 19930106; US 92845588 A 19920304
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5331327	A		16	G01S-007/40	CIP of application US 92845588 CIP of patent US 5191348

Abstract (Basic): US 5331327 A
The appts comprises a housing having three sections each with an outer surface and an inner surface, the three sections being configured so that the outer surfaces of each is directed away from the other two surfaces; three frequency transmitters each mounted on a different one of the three sections of the housing.
The appts also incorporates a device for receiving voltage from a voltage source to power the three transmitters, a voltage indicator device for monitoring voltage of the energy source, and switch device for connecting the voltage indicator device and the transmitters to the voltage receiving device. Each section acts to shield the housing from the frequency from each of the three transmitters.
USE/ADVANTAGE - For calibrating **radio** receivers and transmitters, e.g. for testing police band **radar detectors** for measuring speed of road **vehicles** . Improved reliability reduced power consumption and reduced amount of RF.
Dwg.1/9
Title Terms: RADAR; DETECT; PERFORMANCE; VERIFICATION; APPARATUS; THREE; SECTION; HOUSING; OUTER; SURFACE; CONFIGURATION; SO; DIRECT; TWO; SURFACE
Derwent Class: S01; W06; X22
International Patent Class (Main): **G01S-007/40**
File Segment: EPI

8/5/50 (Item 23 from file: 350)

DIALOG(R)File 350:Derwent WPIX
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009803521 **Image available**
WPI Acc No: 1994-083375/199410
Related WPI Acc No: 1996-251209
XRPX Acc No: N94-065096

Automotive obstacle in vehicle **blind spot detection system - uses** radar detection **system to** detect **presence of obstacle in** vehicle **'s blind spot and generate warning signal to** vehicle **operator**

Patent Assignee: VORAD SAFETY SYSTEMS INC (VORA-N)
Inventor: PAKETT A G
Number of Countries: 023 Number of Patents: 011
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9404941	A1	19940303	WO 93US7504	A	19930809	199410 B
US 5325096	A	19940628	US 92930079	A	19920814	199425
			US 93111826	A	19930825	
AU 9348056	A	19940315	AU 9348056	A	19930809	199428
EP 655142	A1	19950531	EP 93918705	A	19930809	199526
			WO 93US7504	A	19930809	
AU 672997	B	19961024	AU 9348056	A	19930809	199705
CA 2141547	C	19970617	CA 2141547	A	19930809	199736
MX 183961	B	19970206	MX 934945	A	19930813	199818
BR 9306886	A	19981208	BR 936886	A	19930809	199903
			WO 93US7504	A	19930809	
EP 655142	B1	19990623	EP 93918705	A	19930809	199929
			WO 93US7504	A	19930809	
DE 69325455	E	19990729	DE 625455	A	19930809	199936
			EP 93918705	A	19930809	
			WO 93US7504	A	19930809	
KR 254143	B1	20000415	WO 93US7504	A	19930809	200124
			KR 95700476	A	19950209	

Priority Applications (No Type Date): US 92930079 A 19920814; US 93111826 A 19930825
Cited Patents: US 3689882; US 3697985; US 3898652; US 4072945; US 4349823; US 4920520; US 5008678; US 5087918; US 5181038
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9404941	A1	E	36	G01S-013/04	
Designated States (National): AU BR CA KR					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE					
US 5325096	A		12	G01S-013/93	Cont of application US 92930079
AU 9348056	A			G01S-013/04	Based on patent WO 9404941
EP 655142	A1	E	1	G01S-013/04	Based on patent WO 9404941
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE					
AU 672997	B			G01S-013/04	Previous Publ. patent AU 9348056 Based on patent WO 9404941
CA 2141547	C			G01S-013/93	
MX 183961	B			G01S-013/004	
BR 9306886	A			G01S-013/04	Based on patent WO 9404941
EP 655142	B1	E		G01S-013/04	Based on patent WO 9404941
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE					
DE 69325455	E			G01S-013/04	Based on patent EP 655142 Based on patent WO 9404941
KR 254143	B1			G01S-013/93	

Abstract (Basic): WO 9404941 A

The **radar** system **senses** the presence of obstacles in a **vehicle** 's blind spot and generates an audible and maybe visual warning signal (41) to the **vehicle** operator indicative of the presence of such an obstacle. The system uses a common radar transceiver (7) that transmits a **radio** frequency signal directed at a blind spot of the **vehicle** .

A Doppler shift in the received reflected frequency generally indicates that an obstacle has moved into the blind spot. Only obstacles that are travelling at approximately the same speed and direction as the **vehicle** are considered to be of interest, and will cause the blind spot sensor to generate an indication that an obstacle is present in the blind spot.

ADVANTAGE - The system is simple and inexpensive and is extremely useful at night and under adverse weather conditions.

Dwg.1/4

Title Terms: AUTOMOTIVE; OBSTACLE; **VEHICLE** ; BLIND; SPOT; DETECT; SYSTEM; RADAR; DETECT; SYSTEM; DETECT; PRESENCE; OBSTACLE; **VEHICLE** ; BLIND; SPOT ; GENERATE; WARNING; SIGNAL; **VEHICLE** ; OPERATE

Derwent Class: W06; X22

International Patent Class (Main): **G01S-013/004** ; **G01S-013/04** ; **G01S-013/93**

International Patent Class (Additional): **G01S-013/093** ; **G01S-013/32** ; **G01S-013/52** ; **G01S-013/56**

File Segment: EPI

8/5/51 (Item 24 from file: 350)

DIALOG(R)File 350:Derwent WPIX

009190461 **Image available**

WPI Acc No: 1992-317897/199239

XRPX Acc No: N92-243328

Doppler radar **speed** sensor **for land** vehicle **- mixes energy reflected from forward and backward directions with sample of transmitted energy to yield pair of Doppler frequency components**

Patent Assignee: PHILIPS ELECTRONICS UK LTD (PHIG); PHILIPS GLOEILAMPENFAB NV (PHIG); PHILIPS ELECTRONICS NV (PHIG); US PHILIPS CORP (PHIG)

Inventor: BEASLEY P D L

Number of Countries: 005 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 504993	A1	19920923	EP 92200719	A	19920313	199239 B
US 5204682	A	19930420	US 92834071	A	19920211	199317
EP 504993	B1	19960814	EP 92200719	A	19920313	199637
DE 69212675	E	19960919	DE 612675	A	19920313	199643
			EP 92200719	A	19920313	

Priority Applications (No Type Date): GB 916110 A 19910322

Cited Patents: FR 2361669; US 3371341; US 4050071; US 4107680; EP 371346; FR 2361659

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 504993	A1	E	9	G01S-013/60	
US 5204682	A		8	G01S-013/60	
EP 504993	B1	E	10	G01S-013/60	

Designated States (Regional): DE FR GB IT

DE 69212675	E		G01S-013/60	Based on patent EP 504993

Abstract (Basic): EP 504993 A

The doppler **radar** speed **sensor** hhas a **radar** transmitter/receiver circuit coupled to an aerial system for transmitting beams from common source in two different directions. The reflected **radio** signals are processed to obtain information about the speed of the aerial system in a third direction parallel to the ground.

The first and second directions make acute and obtuse angles respectively with given sense of the third direction. A mixer mixes the received signals with a reference signal to produce a beat signal housing a pair of Doppler frequency components. A spectrum analyser determines the speed of the aerial system.

ADVANTAGE - Avoids necessity of constructing mixer arrangement as pair of quadrature related mixer

Dwg.1/3

Title Terms: DOPPLER; RADAR; SPEED; SENSE; LAND; **VEHICLE** ; MIX; ENERGY; REFLECT; FORWARD; BACKWARD; DIRECTION; SAMPLE; TRANSMIT; ENERGY; YIELD; PAIR; DOPPLER; FREQUENCY; COMPONENT

Derwent Class: W06; X22

International Patent Class (Main): **G01S-013/60**

International Patent Class (Additional): **G01S-013/62**

File Segment: EPI

8/5/52 (Item 25 from file: 350)

DIALOG(R)File 350:Derwent WPIX

008164447

WPI Acc No: 1990-051448/199007

XRPX Acc No: N90-039510

Combined scanning receiver and radar detector **for** vehicle **- selects desired channel in citizen band or scans preselected public service frequencies corresp. to particular state, country or city**

Patent Assignee: TRYCOMM TECHN INC (TRYC-N)

Inventor: CRUM S T; UNSER B

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 4887086	A	19891212				199007 B

Priority Applications (No Type Date): US 870 A 19870728; US 8778775 A 19870728

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 4887086	A		13		

Abstract (Basic): US 4887086 A

The **radio** receiver combines a radar receiver, a receiver for the citizen band, and a scanning receiver for public service bands which are controlled in operation and function by a microprocessor. The public service scanning receiver covers a range of public service bands from 37 MHz to 470 MHz. The receiver for the citizen band covers frequencies from 26 to 28 MHz. The radar receiver covers frequencies of traffic radars located in the X and K bands, from 8 to 24 GHz. A **radar detector** responds to **radar** signals in either the X or K band under control of the micro-processor, and is in a standby mode whether or not the operator is listening to reception on the citizen band or a public service band.

A synthesiser either selects a desired channel in the citizen band or else scans a preselected group of public service frequent-cies that

correspond to those assigned to a particular state, country or city. Combined **radio** front ends are served by the synthesiser that is controlled by the microprocessor. Received signals undergo a dual conversion to produce an IF signal that is either narrow band FM in the case of public service signals of AM in the case of CB.

Title Terms: COMBINATION; SCAN; RECEIVE; RADAR; DETECT; **VEHICLE** ; SELECT; CHANNEL; CITY; BAND; SCAN; PRESELECTED; PUBLIC; SERVICE; FREQUENCY; CORRESPOND; STATE; COUNTRY; CITY

Index Terms/Additional Words: CB; POLICE; SPEED; TRAP

Derwent Class: W02; W06; X22

International Patent Class (Additional): **G01S-007/40**

File Segment: EPI

```
Set     Items   Description
S1          0   AU=(KROCULICK K? OR KROCULICK, K?)
S2     597500   RADIO  (January 1969)
S3     609974   SOUND? ? OR MUSIC? ? OR STEREO OR PLAYER? ?
S4      47479   RADAR(3N)(DETECT? OR SENS?)
S5        148   S3(20N)S4
S6         19   S5(30N)(CAR OR CARS OR AUTOMOBILE? OR VEHICL?)
S7       7393   (S2 OR S3)(5N)(CAR OR CARS OR AUTOMOBILE? OR VEHICL?)
S8         14   S7(25N)S4
? show file
File   2:INSPEC 1969-2004/Apr W3
         (c) 2004 Institution of Electrical Engineers
File   6:NTIS 1964-2004/May W1
         (c) 2004 NTIS, Intl Cpyrght All Rights Res
File   8:Ei Compendex(R) 1970-2004/Apr W3
         (c) 2004 Elsevier Eng.  Info. Inc.
File  25:Weldasearch 19662004/Nov
         (c) 2004 TWI Ltd
File  31:World Surface Coatings Abs 1976-2004/Mar
         (c) 2004 Paint Research Assn.
File  34:SciSearch(R) Cited Ref Sci 1990-2004/Apr W4
         (c) 2004 Inst for Sci Info
File  35:Dissertation Abs Online 1861-2004/Apr
         (c) 2004 ProQuest Info&Learning
File  50:CAB Abstracts 1972-2004/Mar
         (c) 2004 CAB International
File  51:Food Sci.&Tech.Abs 1969-2004/Apr W4
         (c) 2004 FSTA IFIS Publishing
File  53:FOODLINE(R): Food Science & Technology 1972-2004/Apr 28
         (c) 2004 LFRA
File  65:Inside Conferences 1993-2004/Apr W4
         (c) 2004 BLDSC all rts. reserv.
File  67:World Textiles 1968-2004/Apr
         (c) 2004 Elsevier Science Ltd.
File  94:JICST-EPlus 1985-2004/Apr W2
         (c)2004 Japan Science and Tech Corp(JST)
File  95:TEME-Technology & Management 1989-2004/Apr W2
         (c) 2004 FIZ TECHNIK
File  99:Wilson Appl. Sci & Tech Abs 1983-2004/Mar
         (c) 2004 The HW Wilson Co.
File 103:Energy SciTec 1974-2004/Apr B2
         (c) 2004 Contains copyrighted material
File 118:ICONDA-Intl Construction 1976-2004/Apr
         (c) 2004 Fraunhofer-IRB
File 119:Textile Technol.Dig. 1978-2003/Jun
         (c) 2003 EBSCO Publishing
File 144:Pascal 1973-2004/Apr W3
         (c) 2004 INIST/CNRS
File 240:PAPERCHEM 1967-2004/Apr W4
         (c) 2004 Elsevier Eng. Info. Inc.
File 248:PIRA 1975-2004/Apr W3
         (c) 2004 Pira International
File 315:ChemEng & Biotec Abs 1970-2004/Apr
         (c) 2004 DECHEMA
File 354:Ei EnCompassLit(TM) 1965-2004/Apr W3
         (c) 2004 Elsevier Eng. Info. Inc.
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info
```

6/3,K/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC
(c) 2004 Institution of Electrical Engineers. All rts. reserv.

7137003 INSPEC Abstract Number: C2002-02-5260A-002
Title: Adaptive information filter for the fusion of data from the object-detecting sensors of an autonomous vehicle
Author(s): Becker, J.C.
Author Affiliation: Inst. of Control Eng., Tech. Univ. Braunschweig, Germany
Conference Title: Control in Transportation Systems 2000. Proceedings volume from the 9th IFAC Symposium Part vol.1 p.247-52 vol.1
Editor(s): Schnieder, E.; Becker, U.
Publisher: Elsevier Sci, Kidlington, UK
Publication Date: 2001 Country of Publication: UK 2 vol.xiii+622 pp.
ISBN: 0 08 043552 1 Material Identity Number: XX-2000-01195
Conference Title: Proceedings of 9th Symposium on Control in Transportation Systems
Conference Sponsor: IFAC; GES - Social Impact of Autom.; TVA - Autom. Control; TVC - Air Traffic Control Autom.; et al
Conference Date: 13-15 June 2000 Conference Location: Braunschweig, Germany
Language: English
Subfile: C

...Abstract: paper describes an adaptive information filter for the fusion of sensor data of an autonomous **vehicle** . The **vehicle** sensor system for object detection consists of a **stereo** vision sensor, four laserscanners and a **radar sensor** and provides a high redundancy in the observed area in front of the **vehicle** . The derivation of the information filter as well as its application to sensor data fusion...

6/3,K/2 (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC
(c) 2004 Institution of Electrical Engineers. All rts. reserv.

6684916 INSPEC Abstract Number: B2000-10-6140-047, C2000-10-3390C-057
Title: Fusion of heterogeneous sensors for the guidance of an autonomous vehicle
Author(s): Becker, J.C.
Author Affiliation: Inst. of Control Eng., Tech. Univ. Braunschweig, Germany
Conference Title: Proceedings of the Third International Conference on Information Fusion (Cat. No.00EX438) Part vol.2 p.WED5/11-18 vol.2
Publisher: Int. Soc. Inf. Fusion, Sunnyvale, CA, USA
Publication Date: 2000 Country of Publication: USA 2 vol.(xxxiv+1646) pp.
ISBN: 2 7257 0001 9 Material Identity Number: XX-2000-01805
Conference Title: Proceedings of the Third International Conference on Information Fusion
Conference Sponsor: CNRS; ONERA; THOMSON-CSF; DGA; IRISA; ANRT
Conference Date: 10-13 July 2000 Conference Location: Paris, France
Language: English
Subfile: B C

Abstract: The paper describes the sensor fusion system of an autonomous **vehicle** for automated **vehicle** testing. The **vehicle** sensor system for object detection consists of a **stereo** vision sensor, four laser-scanners

(lidar) and a **radar sensor** . The **sensor** system is designed to totally cover the **vehicle** environment with a high redundancy in front of the **vehicle** . The sensor fusion system of the **vehicle** consists of data alignment, data association and state estimation module. An adaptive information filter is...

6/3,K/3 (Item 3 from file: 2)
DIALOG(R)File 2:INSPEC
(c) 2004 Institution of Electrical Engineers. All rts. reserv.

6529803 INSPEC Abstract Number: B2000-04-6135-426, C2000-04-3360B-055
Title: Vehicle guidance for an autonomous vehicle
Author(s): Simon, A.; Becker, J.C.
Author Affiliation: Inst. of Control Eng., Tech. Univ. Braunschweig, Germany
Conference Title: Proceedings 199 IEEE/IEEJ/JSAI International Conference on Intelligent Transportation Systems (Cat. No.99TH8383) p.429-34
Publisher: IEEE, Piscataway, NJ, USA
Publication Date: 1999 Country of Publication: USA xvii+1015 pp.
ISBN: 0 7803 4975 X Material Identity Number: XX-1999-03419
U.S. Copyright Clearance Center Code: 0 7803 4975 X/99/$10.00
Conference Title: Proceedings of 1999 Intelligent Transportation Systems Conference
Conference Sponsor: IEEE Intelligent Transp. Syst. Council; Inst. Electr. Eng. Japan; Japanese Soc. Artificial Intelligence
Conference Date: 5-8 Oct. 1999 Conference Location: Tokyo, Japan
Language: English
Subfile: B C
Copyright 2000, IEE

...Abstract: vision sensor and a DGPS sensor are used as position sensors. The trajectory for the **vehicle** motion is generated in a first step by using only information from a digital map. Object-detecting sensors such as the **stereo** vision sensor, three laser scanners and a **radar sensor** observe the **vehicle** environment and report detected objects to the sensor fusion module. This information is used to dynamically update the planned **vehicle** trajectory to the final **vehicle** motion.

6/3,K/4 (Item 4 from file: 2)
DIALOG(R)File 2:INSPEC
(c) 2004 Institution of Electrical Engineers. All rts. reserv.

5900146 INSPEC Abstract Number: C9806-3360B-028
Title: Vision for longitudinal vehicle control
Author(s): McLauchlan, P.F.; Malik, J.
Author Affiliation: Dept. of Electr. Eng. & Comput. Sci., California Univ., Berkeley, CA, USA
Conference Title: IEEE Conference on Intelligent Transportation Systems. ITSC '97 Proceedings (Cat. No.97TH8331) p.918-23
Publisher: IEEE, New York, NY, USA
Publication Date: 1997 Country of Publication: USA xii+1088 pp.
ISBN: 0 7803 4269 0 Material Identity Number: XX97-02995
U.S. Copyright Clearance Center Code: 0 7803 4269 0/97/$10.00
Conference Title: Proceedings of Conference on Intelligent Transportation Systems
Conference Date: 9-12 Nov. 1997 Conference Location: Boston, MA, USA
Language: English
Subfile: C

Abstract: An important component of the drive towards intelligent **vehicles** is the ability to maintain a fixed distance from a lead **vehicle** using feedback provided by range sensors. We investigate the possibility of using **stereo** vision to provide the range information, in conjunction with a scanning laser **radar** **sensor** . The tracker utilizes a layered architecture wherein the bottom layer computes motion in both images...

6/3,K/5 (Item 5 from file: 2)
DIALOG(R)File 2:INSPEC

5780969 INSPEC Abstract Number: A9802-0130C-048, B9801-0100-106
Title: Oceans '97. MTS/IEEE Conference Proceedings
Part vol.1
Publisher: IEEE, New York, NY, USA
Publication Date: 1997 Country of Publication: USA 2 vol. xx+1510 pp.
ISBN: 0 7803 4108 2 Material Identity Number: XX97-02496
U.S. Copyright Clearance Center Code: 97/$10.00
Conference Title: Oceans '97. MTS/IEEE Conference Proceedings
Conference Sponsor: Marine Technol. Soc.; OES; IEEE; MT&T
Conference Date: 6-9 Oct. 1997 Conference Location: Halifax, NS, Canada
Language: English
Subfile: A B

Abstract: The following topics were dealt with: sonar methods, signal processing, marine **vehicle** control, telemetry, manned submersibles, remote sensing methods, acoustic current profiling, moorings and ropes, coastal structures, underwater **sound** , sonar methods, benthic instrumentation, marine biology, coastal areas, AUVs, natural resources, database methods, acoustic communications, acoustic tomography, seafloor classification, **radar** remote **sensing** , marine education, transducers, marine safety, data visualization, robotics, ocean circulation, economic development, seabed engineering, geoscience...

6/3,K/6 (Item 6 from file: 2)
DIALOG(R)File 2:INSPEC

5276085 INSPEC Abstract Number: B9607-0100-050, C9607-3360B-007
Title: Collision Avoidance and Automated Traffic Management Sensors
Journal: Proceedings of the SPIE - The International Society for Optical Engineering vol.2592
Publisher: SPIE-Int. Soc. Opt. Eng,
Publication Date: 1995 Country of Publication: USA
CODEN: PSISDG ISSN: 0277-786X
Material Identity Number: C574-96013
U.S. Copyright Clearance Center Code: 95/$6.00
Conference Title: Collision Avoidance and Automated Traffic Management Sensors
Conference Sponsor: SPIE
Conference Date: 25-26 Oct. 1995 Conference Location: Philadelphia, PA, USA
Language: English
Subfile: B C

...Abstract: and management; driver vision enhancement; airport ground traffic; fibre optic sensors; virtual bumpers; forward-looking **radar** ; an ultrawide-band **sensor** ; noncontact precrash restraint actuation; autonomous traffic negotiation; vision-based traffic survey; traffic detection; **stereo** -based **vehicle** guidance; laser-based tracking; magnetic material guidance sensors; sensor fusion; adverse weather effects; millimetre-wave...

6/3,K/7 (Item 7 from file: 2)
DIALOG(R)File 2:INSPEC

4754402 INSPEC Abstract Number: A9420-0130C-012, B9410-0100-055
Title: Proceedings of OCEANS '93
Part vol.1
Publisher: IEEE, New York, NY, USA
Publication Date: 1993 Country of Publication: USA 3 vol. (xxiii+491+509+502) pp.
ISBN: 0 7803 1385 2
U.S. Copyright Clearance Center Code: 93/$3.00
Conference Title: Proceedings of OCEANS '93
Conference Sponsor: Oceanic Eng. Soc. IEEE and its Victoria Chapter; B.C. Trade Dev. Corp
Conference Date: 18-21 Oct. 1993 Conference Location: Victoria, BC, Canada
Language: English
Subfile: A B

Abstract: The following topics were dealt with: oceanic microwave remote **sensing** ; coastal HF **radar** , underwater **sound** , sonar methods, water sampling, underwater **vehicles** , signal processing, thermometry, current monitoring, radar methods, polar seas studies, bathymetry, buoys and instrumentation, power...

6/3,K/8 (Item 1 from file: 6)
DIALOG(R)File 6:NTIS

1717881 NTIS Accession Number: PB93-162386
Analyses and Tests of Three Signal Processing Methods for Helicopter Identification
Carlsson, C. ; Bengtsson, J. P. ; Oedman, S.
Foersvarets Forskningsanstalt, Stockholm (Sweden). Dept. of Information Technology.
Corp. Source Codes: 063330009
Report No.: FOA-C-30677-8.4
Oct 92 31p
Languages: English
Journal Announcement: GRAI9311
Summary in Swedish.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A03/MF A01

A helicopter in the battle field is a large threat to soldiers and armoured **vehicles** , it can suddenly appear behind hills, vegetation etc. A helicopter can also fly close to the ground and avoid **detection** by **radar** . Therefore it would be a great advantage still being able to recognize a helicopter, e.g. using its characteristic **sound** . **Sound** from helicopters and non-helicopters has been recorded with a microphone. Three signal processing methods...

6/3,K/9 (Item 2 from file: 6)
DIALOG(R)File 6:NTIS

0650649 NTIS Accession Number: AD-442 607/8/XAB
Operator Proficiency in Interpreting Ground Surveillance Radar Signals (AN/TPS-33)
Kraemer, A. J. ; Easley, D. L. ; Miller, A. L. ; Stevenson, P. H.
George Washington Univ Alexandria VA Human Resources Research Office
Corp. Source Codes: 173200
Report No.: HUMRRO-TR-90
Jun 64 27p
Journal Announcement: GRAI7723
Distribution limitation now removed. NOTE: Only 35mm microfilm is available. No microfiche. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A03/MF A01

Descriptors: Radar signals; * **Radar** operators; *Acoustic **detectors** ; **Detection** ; Auditory perception; **Radar** ; **Radar targets** ; Doppler radar; Moving target indicators; Learning; Perception (Psychology); Psychoacoustics; Training; Surface targets; Target recognition; Combat surveillance; **Vehicles** ; Millitary personnel; **Sound** ranging

6/3,K/10 (Item 3 from file: 6)
DIALOG(R)File 6:NTIS

0300790 NTIS Accession Number: PB-204 806/XAB
Development of Anticipatory Automobile Crash Sensors
(Annual rept. 1 Jul 70-30 Jun 71)
Hopkins, J. B. ; Holmstrom, F. R. ; Apgar, E. G. ; Hazel, M. E. ; Newfell, A. T.
Department of Transportation, Cambridge, Mass. Transportation Systems Center.
Report No.: DOT-TSC-NHTSA-71-3
30 Jun 71 104p
Journal Announcement: GRAI7203
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A06/MF A01

Descriptors: Motor **vehicle** accidents; **Detectors** ; **Radar** ; Microwave equipment; Radiation hazards; **Sound** waves; Ultrasonic radiation; Transducers

6/3,K/11 (Item 4 from file: 6)
DIALOG(R)File 6:NTIS
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0136122 NTIS Accession Number: AD-429 894/XAB
Electronic Audio Recognition Study
(Final progress rept. 1 Jul 62-31 Jul 63)
Murray, A. E.
Cornell Aeronautical Lab., Inc., Buffalo, N. Y.
Corp. Source Codes: 098300
Report No.: CAL-UB-1721X4
31 Jul 63 69p
Journal Announcement: USGRDR6806
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A04

Descriptors: Moving target indicators; * **Radar** targets; **Detection** ; Classification; Doppler **radar** ; Audiofrequency; Combat surveillance; Search radar; Radar clutter; **Vehicles** ; Personnel; Identification; Pattern recognition; **Sound** reproduction systems; Surface targets; **Sound** signals ; Data processing systems

6/3,K/12 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.

06712282 E.I. No: EIP04068011543
Title: Structural Method for Obstacle Detection and Terrain Classification
Author: Ollis, Mark; Jochem, Todd
Conference Title: Unmanned Ground Vehicle Technology V
Conference Location: Orlando, FL, United States Conference Date: 20030422-20030423
E.I. Conference No.: 62202
Source: Proceedings of SPIE - The International Society for Optical Engineering v 5083 2003. p 1-12
Publication Year: 2003
CODEN: PSISDG ISSN: 0277-786X
Language: English

Descriptors: Collision avoidance; Remotely operated **vehicles** ; **Radar** ; **Sensor data fusion** ; Optical **radar** ; Landforms; Vegetation; Ground **vehicles** ; Data acquisition; **Stereo** vision; Real time systems; Classification (of information); Estimation

6/3,K/13 (Item 2 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.

06194590 E.I. No: EIP02457194861
Title: Driving in traffic: Short-range sensing for urban collision avoidance
Author: Thorpe, Chuck; Duggins, Dave; Gowdy, Jay; MacLaughlin, Rob; Mertz, Christoph; Siegel, Mel; Suppe, Arne; Wang, Bob; Yata, Teruko

Corporate Source: Robotics Institute Carnegie Mellon University, Pittsburgh, PA 15213-3890, United States
Conference Title: Unmanned Ground Vehicle Technology IV
Conference Location: Orlando, FL, United States Conference Date: 20020402-20020403
E.I. Conference No.: 60196
Source: Proceedings of SPIE - The International Society for Optical Engineering v 4715 2002. p 201-205
Publication Year: 2002
CODEN: PSISDG ISSN: 0277-786X
Language: English

Descriptors: Intelligent **vehicle** highway systems; Remote sensing; Collision avoidance; **Sensors** ; **Stereo vision** ; **Radar**

6/3,K/14 (Item 3 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05524478 E.I. No: EIP00045109826
Title: Vehicle guidance for an autonomous vehicle
Author: Simon, Andreas; Becker, Jan C.
Corporate Source: Technical Univ Braunschweig, Braunschweig, Ger
Conference Title: 1999 IEEE/IEEJ/JSAI International Conference on Intelligent Transportation Systems
Conference Location: Tokyo, Jpn Conference Date: 19991005-19991008
E.I. Conference No.: 56555
Source: IEEE Conference on Intelligent Transportation Systems, Proceedings, ITSC 1999. p 429-434
Publication Year: 1999
CODEN: 002845
Language: English

...Abstract: vision sensor and a DGPS sensor are used as position sensors. The trajectory for the **vehicle** motion is generated in a first step by using only information from a digital map. Object-detecting sensors such as the **stereo** visual sensor, three laserscanner and a **radar sensor** observe the **vehicle** environment and report detected objects to the sensor fusion module. This information is used to dynamically update the planned **vehicle** trajectory to the final **vehicle** motion. (Author abstract) 8 Refs.

6/3,K/15 (Item 4 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05004968 E.I. No: EIP98044175381
Title: Vision for longitudinal vehicle control
Author: McLauchlan, Philip F.; Malik, Jitendra
Corporate Source: Univ of California at Berkeley, Berkeley, CA, USA
Conference Title: Proceedings of the 1997 IEEE Conference on Intelligent Transportation Systems, ITSC
Conference Location: Boston, MA, USA Conference Date: 19971109-19971112
E.I. Conference No.: 48268
Source: IEEE Conference on Intelligent Transportation Systems, Proceedings, ITSC 1997. IEEE, Piscataway, NJ, USA,97TH8331. p 918-923
Publication Year: 1997
CODEN: 002845

Language: English

Abstract: An important component of the drive towards intelligent **vehicles** is the ability to maintain a fixed distance from a lead **vehicle** using feedback provided by range sensors. We are investigating the possibility of using **stereo** vision to provide the range information, in conjunction with a scanning laser **radar** **sensor** . The tracker utilizes a layered architecture wherein the bottom layer computes motion in both images...

6/3,K/16 (Item 1 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management

01664444 20020800697
Fusion der Daten der objekterkennenden Sensoren eines autonomen Strassenfahrzeugs
Becker, J-C
TU Braunschweig, D
Fortschritt-Berichte VDI, Reihe 8: Mess-, Steuerungs- und Regelungstechnik, v948, n2, pp1-174, 2002
Document type: Dissertation Language: German
Record type: Abstract
ISBN: 3-18-394808-7
ISSN: 0178-9546

DESCRIPTORS: HIGHWAY **VEHICLES** ; **VEHICLE** GUIDING; AUTOPILOT SYSTEMS; OBJECT RECOGNITION; COMPUTING; **STEREO** EXPOSURE; OPTICAL **SENSORS** ; FEELER ; DOPPLER **RADAR** **SENSORS** ; ALGORITHM; KALMAN FILTERS; COMPUTER SOFTWARE

6/3,K/17 (Item 2 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management

01196771 I98041120300
Vision for longitudinal vehicle control
McLauchlan, PF; Malik, J
Dept. of Electr. Eng. & Comput. Sci., California Univ., Berkeley, CA, USA
IEEE Conference on Intelligent Transportation Systems. ITSC '97 Proceedings (Cat. No.97TH8331), 9-12 Nov. 1997, Boston, MA, USA1997
Document type: Conference paper Language: English
Record type: Abstract
ISBN: 0-7803-4269-0

ABSTRACT:
An important component of the drive towards intelligent **vehicles** is the ability to maintain a fixed distance from a lead **vehicle** using feedback provided by range sensors. We investigate the possibility of using **stereo** vision to provide the range information, in conjunction with a scanning laser **radar** **sensor** . The tracker utilizes a layered architecture wherein the bottom layer computes motion in both images...

6/3,K/18 (Item 3 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management

00716818 E93100862243

Deutlich hoehere Beweglichkeit von Robotern mit integriertem Rechner. Erkenntnisse aus einem amerikanischen Wettbewerb / Hindernislauf und Suchaufgaben / University of Michigan siegt
anonym
Blick durch die Wirtschaft - Beilage zur Frankfurter Allgemeinen Zeitung, v36, n196 11.10.93, pp10, 1993
Document type: Short journal article Language: German
Record type: Abstract
ISSN: 0406-4224

...DESCRIPTORS: ULTRASONIC; CCD IMAGE **SENSORS** ; ACOUSTIC **RADAR** ; **SOUND** LOCATION; PARALLEL PROCESSING; PARALLEL PROCESSORS; FUZZY LOGIC; AUTOMATIC GUIDED **VEHICLE** SYSTEMS

6/3,K/19 (Item 1 from file: 103)
DIALOG(R)File 103:Energy SciTec

04834567 DE
Title: Adaptive information filter for the fusion of data from the object-detecting sensors of an autonomous vehicle
Author(s): Becker, J.C. [Technical Univ. Braunschweig (Germany). Inst. of Control Engineering]
Corporate Source: VDI/VDE-Gesellschaft Mess- und Automatisierungstechnik (GMA), Duesseldorf (Germany); International Federation of Automatic Control (IFAC)
Conference Title: 9. IFAC symposium on control in transportation systems
Conference Location: Germany
Source: 9. IFAC symposium on control in transportation systems, Braunschweig (Germany), 13-15 Jun 2000 ; PBD: 2000 ; In: Transportation systems 2000. Vol. 1. Proceedings, by Schnieder, E.; Becker, U. (eds.)[Technische Univ. Braunschweig (Germany). Inst. fuer Regelungs- und Automatisierungstechnik], 294 pages.
Publication Date: 20000701
Availability Date: 20020902
Report Number(s): NONE
OSTI Number(s): DE20270255
Contract Number (Non-DOE): TRN DE02GA248
Language: English
Medium/Dimensions: page(s) 275-280

...Abstract: paper describes an adaptive information filter for the fusion of sensor data of an autonomous **vehicle** . The **vehicle** sensor system for object detection consists of a **stereo** vision sensor, four laserscanners and a **radar** **sensor** and provides a high redundancy in the observed area in front of the **vehicle** . The derivation of the information filter as well as its application to sensor data fusion...
?

8/5/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

7215050 INSPEC Abstract Number: C2002-04-3360B-030
Title: Timing analysis and code generation of vehicle control software using Taxys
Author(s): Tripakis, S.; Yovine, S.
Author Affiliation: Centre Equation, VERIMAG, Gieres, France
URL: http://www.elsevier.nl/locate/entcs/volume55.html
Journal: Electronic Notes in Theoretical Computer Science
Conference Title: Electron. Notes Theor. Comput. Sci. (Netherlands) vol.55, no.2
Publication URL: http://www.elsevier.nl/locate/entcs
Publisher: Elsevier,
Publication Date: 2001 Country of Publication: Netherlands
Material Identity Number: G349-2002-007
Conference Title: First Workshop on Runtime Verification (RV'2001)
Conference Date: 23 July 2001 Conference Location: Paris, France
Language: English Document Type: Conference Paper (PA); Journal Paper (JP)
Treatment: Practical (P)
Abstract: PATH's automated vehicle Control application software is responsible for the longitudinal and lateral control of each vehicle in a platoon. The software consists of a set of processes running, concurrently an a PC, reading data from various **sensors** (e.g., **radar** , speedometer, accelerometer, magnetometer), writing to actuators (throttle, brake and steering), and using **radio** to communicate data to other **vehicles** . The processes exchange data with each other using a publish/subscribe scheme. In this paper, we describe the current software, and propose a model written in the synchronous language ESTEREL. We use TAXYS, a tool for timing analysis Of ESTEREL based on the KRONOS model-checker, and the ESTEREL Compiler SAXO-RT [6], to verify that the application meets its deadlines. Timing analysis is done on-the-fly during the execution of the appropriately instrumented C code generated by the compiler. Instrumentation allows the verifier to observe the execution time of the application code. The C code generated by SAXO-RT, appropriately linked to the publish/subscribe library, can be run on the vehicles. (7 Refs)
Subfile: C
Descriptors: automated highways; mobile robots; parallel algorithms; program compilers
Identifiers: automated vehicle Control application softwaxe; radar; speedometer; accelerometer; magnetometer; throttle; brake; steering; publish/subscribe scheme; ESTEREL; synchronous language; TAXYS; timing analysis; KRONOS model-checker; ESTEREL Compiler; SAXO-RT; platoon formation
Class Codes: C3360B (Road-traffic system control); C3390C (Mobile robots) ; C6150C (Compilers, interpreters and other processors); C4240P (Parallel programming and algorithm theory)

8/5/2 (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC

5276085 INSPEC Abstract Number: B9607-0100-050, C9607-3360B-007
Title: Collision Avoidance and Automated Traffic Management Sensors
Journal: Proceedings of the SPIE - The International Society for Optical Engineering vol.2592
Publisher: SPIE-Int. Soc. Opt. Eng,

Publication Date: 1995 Country of Publication: USA
CODEN: PSISDG ISSN: 0277-786X
Material Identity Number: C574-96013
U.S. Copyright Clearance Center Code: 95/$6.00
Conference Title: Collision Avoidance and Automated Traffic Management Sensors
Conference Sponsor: SPIE
Conference Date: 25-26 Oct. 1995 Conference Location: Philadelphia, PA, USA
Language: English Document Type: Conference Proceedings (CP); Journal Paper (JP)
Treatment: Practical (P); Theoretical (T)
Abstract: The following topics were dealt with: extrinsic Fabry-Perot interferometers; vision for tolls and management; driver vision enhancement; airport ground traffic; fibre optic sensors; virtual bumpers; forward-looking **radar** ; an ultrawide-band **sensor** ; noncontact precrash restraint actuation; autonomous traffic negotiation; vision-based traffic survey; traffic detection; **stereo** -based **vehicle** guidance; laser-based tracking; magnetic material guidance sensors; sensor fusion; adverse weather effects; millimetre-wave scattering and radar; and an intersection auxiliary signal system.
Subfile: B C
Descriptors: image processing; image sensors; path planning; road traffic ; road vehicles; traffic control
Identifiers: collision avoidance; automated traffic management sensors; intelligent transportation systems; IVHS; computer vision; road toll systems; extrinsic Fabry-Perot interferometers; driver vision enhancement; airport ground traffic; fibre optic sensors; virtual bumpers; forward-looking radar; ultrawide-band sensor; noncontact precrash restraint actuation; autonomous traffic negotiation; vision-based traffic survey; traffic detection; stereo-based vehicle guidance; laser-based tracking; magnetic material guidance sensors; sensor fusion; adverse weather effects; millimetre-wave scattering; intersection auxiliary signal system
Class Codes: B0100 (General electrical engineering topics); B6140C (Optical information, image and video signal processing); B7230G (Image sensors); C3360B (Road-traffic system control); C7445 (Traffic engineering computing); C1230 (Artificial intelligence); C1290H (Systems theory applications in transportation); C5260B (Computer vision and image processing techniques); C3240K (Image sensors)

8/5/3 (Item 3 from file: 2)
DIALOG(R)File 2:INSPEC

4754402 INSPEC Abstract Number: A9420-0130C-012, B9410-0100-055
Title: Proceedings of OCEANS '93
Part vol.1
Publisher: IEEE, New York, NY, USA
Publication Date: 1993 Country of Publication: USA 3 vol. (xxiii+491+509+502) pp.
ISBN: 0 7803 1385 2
U.S. Copyright Clearance Center Code: 93/$3.00
Conference Title: Proceedings of OCEANS '93
Conference Sponsor: Oceanic Eng. Soc. IEEE and its Victoria Chapter; B.C. Trade Dev. Corp
Conference Date: 18-21 Oct. 1993 Conference Location: Victoria, BC, Canada
Language: English Document Type: Conference Proceedings (CP)
Treatment: Practical (P)

Abstract: The following topics were dealt with: oceanic microwave remote **sensing** ; coastal HF **radar** , underwater **sound** , sonar methods, water sampling, underwater **vehicles** , signal processing, thermometry, current monitoring, radar methods, polar seas studies, bathymetry, buoys and instrumentation, power sources, air-sea interactions, climatology, localization and position determination, robotics, optical remote sensing, marine cables, vehicle navigation, SAR methods, information systems, bio-acoustics, underwater optics, seafloor imaging and classification, telemetry, display systems, matched field processing (tomography and holography), acoustic communication, ROV and towed vehicle applications.

Subfile: A B

Descriptors: atmospheric techniques; mobile robots; ocean waves; oceanographic techniques; remote sensing; remote sensing by radar; synthetic aperture radar; underwater sound; wind

Identifiers: measurement technique; ocean; sea; wind; climate; microwave remote sensing; coastal HF radar; underwater sound; sonar; underwater vehicles; signal processing; current monitoring; polar seas; bathymetry; buoys; instrumentation; air-sea interactions; position determination; robotics; marine cables; vehicle navigation; SAR; information systems; seafloor; telemetry; display systems; matched field processing; acoustic communication; ROV

Class Codes: A0130C (Conference proceedings); A9210V (Underwater sound); A9150 (Marine geology and geophysics); A9365 (Data acquisition, processing and storage); A9385 (Instrumentation and techniques for geophysical, hydrospheric and lower atmosphere research); A9210 (Physics of the oceans); A9210H (Surface waves, tides, and sea level); B0100 (General electrical engineering topics); B7710D (Oceanography and hydrology) ; B6320 (Radar equipment, systems and applications); B6320E (Sonar and acoustic radar)

8/5/4 (Item 4 from file: 2)

DIALOG(R)File 2:INSPEC

01559850 INSPEC Abstract Number: B80041795

Title: Ultrasonic Doppler-type vehicle detector

Author(s): Morisaki, K.; Honma, K.; Shirasaki, S.

Author Affiliation: Data Equipment and Control Systems Dept., Matsushita Communication Industrial Co. Ltd., Osaka, Japan

Journal: National Technical Report vol.26, no.1 p.123-35

Publication Date: Feb. 1980 Country of Publication: Japan

CODEN: NTROAV ISSN: 0028-0291

Language: Japanese Document Type: Journal Paper (JP)

Treatment: Applications (A); General, Review (G)

Abstract: Discusses vehicle speed detectors using ultrasonic Doppler waves that were believed to be difficult in practical use due to influences of air temperature and wind. The results of the theoretical study of these influences and the details of performance with an outline of the developed equipment are described in this report. This equipment consists of a speed detector unit and a warning facility unit for speed and headway. A temperature sensing device is applied to compensate for the change of sound velocity, but it is confirmed that wind is not a serious problem. The speed measurement error is less than +or-2% in standard deviation from the experimental data by test car method. Inasmuch as ultrasonic Doppler-type **vehicle** detectors have no restriction on **radio** law as **radar vehicle detectors** , they are expected to be widely used as traffic information systems and speed and headway warning systems in the future. (6 Refs)

Subfile: B

Descriptors: road traffic; ultrasonic applications; velocity measurement

Identifiers: vehicle speed detectors; ultrasonic Doppler waves; air

temperature; wind; temperature sensing device; speed measurement error; traffic information systems; headway warning systems
Class Codes: B7320Z (Other nonelectric variables); B7820 (Sonic and ultrasonic applications); B8520 (Transportation)

8/5/5 (Item 1 from file: 6)
DIALOG(R)File 6:NTIS
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0650649 NTIS Accession Number: AD-442 607/8/XAB
Operator Proficiency in Interpreting Ground Surveillance Radar Signals (AN/TPS-33)
Kraemer, A. J. ; Easley, D. L. ; Miller, A. L. ; Stevenson, P. H.
George Washington Univ Alexandria VA Human Resources Research Office
Corp. Source Codes: 173200
Report No.: HUMRRO-TR-90
Jun 64 27p
Journal Announcement: GRAI7723
Distribution limitation now removed. NOTE: Only 35mm microfilm is available. No microfiche. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A03/MF A01
Contract No.: DA44 188AR02
To measure operator proficiency in identifying audio signals from the AN/TPS-33 ground surveillance radar, a test of 120 tape-recorded signals generated by representative military targets was administered to 43 trained operators. It was found that they could discriminate between personnel and vehicle targets. An experiment was run to determine whether operators can be trained to identify vehicles on the basis of signal characteristics unique to each vehicle type. After two days' training, 10 naive officer subjects learned to discriminate reliably between tracked and wheeled vehicles, although there were marked differences in operator aptitude. (Author)
Descriptors: Radar signals; * **Radar** operators; *Acoustic **detectors** ; **Detection** ; Auditory perception; **Radar** ; **Radar targets** ; Doppler radar; Moving target indicators; Learning; Perception (Psychology); Psychoacoustics; Training; Surface targets; Target recognition; Combat surveillance; **Vehicles** ; Millitary personnel; **Sound** ranging
Identifiers: AN/TPS-33; NTISDODXD
Section Headings: 92B (Behavior and Society--Psychology); 70D (Administration and Management--Personnel Management, Labor Relations, and Manpower Studies)

8/5/6 (Item 2 from file: 6)
DIALOG(R)File 6:NTIS
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0136122 NTIS Accession Number: AD-429 894/XAB
Electronic Audio Recognition Study
(Final progress rept. 1 Jul 62-31 Jul 63)
Murray, A. E.
Cornell Aeronautical Lab., Inc., Buffalo, N. Y.
Corp. Source Codes: 098300
Report No.: CAL-UB-1721X4
31 Jul 63 69p
Journal Announcement: USGRDR6806
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S.

customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.

NTIS Prices: PC A04

Contract No.: DA-36-039-SC-90770; 3A99-23-001-01

A research program has been conducted to assess and demonstrate the feasibility of automatically detecting and classifying targets from the audio output signal of battlefield surveillance doppler radars. Realistic sample signals have been collected in the field, converted to laboratory-edited analog and digital tapes, and subjected to a variety of measurements and analyses. From these analyses a relatively simple method for detecting short bursts of target signals in clutter has been devised and extension of this technique and other, slower ones, to the task of identifying detected targets has been considered. The detection method is based upon the comparison of two differently-defined 'instantaneous' frequencies which can be measured and compared in state-of-the-art analog circuits and requires on the order of 1/2-second of target signal. The method can profit from, but does not depend on, preservation of the lowest frequency (below 35 cps) components of the boxcar output signal.

Descriptors: Moving target indicators; * **Radar** targets; **Detection** ; Classification; Doppler **radar** ; Audiofrequency; Combat surveillance; Search radar; Radar clutter; **Vehicles** ; Personnel; Identification; Pattern recognition; **Sound** reproduction systems; Surface targets; Sound signals; Data processing systems

Section Headings: 63H (Detection and Countermeasures--Radiofrequency Detection)

8/5/7 (Item 1 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

06712282 E.I. No: EIP04068011543

Title: Structural Method for Obstacle Detection and Terrain Classification

Author: Ollis, Mark; Jochem, Todd

Conference Title: Unmanned Ground Vehicle Technology V

Conference Location: Orlando, FL, United States Conference Date: 20030422-20030423

Sponsor: SPIE

E.I. Conference No.: 62202

Source: Proceedings of SPIE - The International Society for Optical Engineering v 5083 2003. p 1-12

Publication Year: 2003

CODEN: PSISDG ISSN: 0277-786X

Language: English

Document Type: CA; (Conference Article) Treatment: T; (Theoretical)

Journal Announcement: 0402W3

Abstract: Obstacle detection, and more generally, terrain classification are two of the most important and fundamental perception functions required for robust unmanned off-road vehicle operation. To better address these tasks, we have developed a novel method that uses multiple readings from multiple sensor modalities to compute a vector measure of the physical density of a particular world location as it appears to each sensor modality. This "density map" representation serves as a powerful discriminator for the terrain classification task. We have developed this concept into a system to characterize terrain in real time from a set of sensors on-board an autonomous vehicle by assigning each patch of terrain a type and by estimating a cost metric for the vehicle to traverse that terrain. The system is fast enough to produce these estimates in real time; on our testbed vehicle, our terrain classification system is updated

at roughly 70 Hz by a variety of different ladar and radar sensors. This paper discusses our methods for modeling each sensor modality, establishing the classification system, and compensating for the fact that the sensor readings may be unsynchronized and taken from a moving vehicle. A number of experiments are presented using both a stationary platform and using the autonomous Raptor vehicle developed by SAIC for the PerceptOR program. Results indicate that this system can be used to correctly classify clear flat ground, sparse vegetation, and impenetrable vegetation, and is practical for use as a guidance system for a completely autonomous vehicle. Additionally, we have demonstrated a limited ability to use this system for more sophisticated terrain classification, such as the ability to identify metal wire fencing. 6 Refs.

Descriptors: Collision avoidance; Remotely operated vehicles; **Radar** ; **Sensor data fusion** ; Optical **radar** ; Landforms; Vegetation; Ground **vehicles** ; Data acquisition; **Stereo** vision; Real time systems; Classification (of information); Estimation

Identifiers: Obstacle detection; Terrain classification; Density maps; Autonomous vehicle guidance

Classification Codes:

914.1 (Accidents & Accident Prevention); 731.5 (Robotics); 716.2 (Radar Systems & Equipment); 723.2 (Data Processing); 741.3 (Optical Devices & Systems); 481.1 (Geology); 723.5 (Computer Applications); 741.2 (Vision); 722.4 (Digital Computers & Systems); 716.1 (Information & Communication Theory)

914 (Safety Engineering); 731 (Automatic Control Principles & Applications); 716 (Electronic Equipment, Radar, Radio & Television); 723 (Computer Software, Data Handling & Applications); 741 (Light, Optics & Optical Devices); 481 (Geology & Geophysics); 722 (Computer Hardware); 921 (Applied Mathematics)

91 (ENGINEERING MANAGEMENT); 73 (CONTROL ENGINEERING); 71 (ELECTRONICS & COMMUNICATION ENGINEERING); 72 (COMPUTERS & DATA PROCESSING); 74 (LIGHT & OPTICAL TECHNOLOGY); 48 (ENGINEERING GEOLOGY); 92 (ENGINEERING MATHEMATICS)

8/5/8 (Item 2 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

05555018 E.I. No: EIP00055173525

Title: Automotive 77 GHz radar system designed for volume manufacture

Author: Redfern, S.; Oxley, C.; Dawson, D.; Bird, J.; Hilder, G.; Prime, B.; Brown, T.; Spencer, D.

Corporate Source: Mitel Semiconductor, Lincoln, UK

Source: Microwave Engineering Europe n DEC./JAN. 1999. 4 pp

Publication Year: 1999

CODEN: MEEUE8 ISSN: 0960-667X

Language: English

Document Type: JA; (Journal Article) Treatment: G; (General Review)

Journal Announcement: 0007W1

Abstract: A 77 GHz automatic cruise control radar system has been developed which meets the typical requirements for long-distance European passenger vehicle use, with relatively high traffic densities and speeds. The system tracks distance, relative speed and lateral position of the targets, with an adequate sensor range for the system to react at high cruising speeds. Using frequency modulated continuous wave modulation, the system uses a voltage controlled Gunn oscillator that transmits and receives through a single quasi-optic lens antenna, receive mixers and frequency-locked loops. 5 Refs.

Descriptors: Radar systems; **Automobile radio** equipment; Millimeter wave devices; **Sensors** ; **Radar antennas** ; Microwave antennas; Frequency

modulation; Gunn oscillators; Intelligent vehicle highway systems
Identifiers: Automotive radar system; Automatic cruise controls (ACC)
Classification Codes:
716.2 (Radar Systems & Equipment); 716.3 (Radio Systems & Equipment); 662.4 (Automobile & Smaller Vehicle Components)
716 (Radar, Radio & TV Electronic Equipment); 662 (Automotive Design & Manufacture); 714 (Electronic Components); 715 (General Electronic Equipment)
71 (ELECTRONICS & COMMUNICATIONS); 66 (AUTOMOTIVE ENGINEERING)

8/5/9 (Item 3 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04416433 E.I. No: EIP96063204080
Title: BYU SAR: a low cost compact synthetic aperture radar
Author: Long, David G.; Jarrett, Bryan; Arnold, David V.; Cano, Jorge
Conference Title: Proceedings of the 1995 International Telemetering Conference, ITC'95
Conference Location: Las Vegas, NV, USA Conference Date: 19951030-19951102
Sponsor: ISA
E.I. Conference No.: 44734
Source: International Telemetering Conference (Proceedings) v 31 1995. Instrument Society of America, Research Triangle Park, NC, USA. p 723-729
Publication Year: 1995
CODEN: ITCOD6 ISSN: 0884-5123
Language: English
Document Type: CA; (Conference Article) Treatment: A; (Applications)
Journal Announcement: 9607W4
Abstract: Synthetic Aperture Radar (SAR) systems are typically very complex and expensive. They generate enormous quantities of data, requiring very high capacity data storage, transmission, and processing systems. We have developed an experimental SAR system with a very simple design which includes near-real-time onboard processing. This system is based on recent developments in low-cost, high-rate analog-to-digital (A/D) and digital-to-analog (D/A) data conversion systems. Most of the system is based on off-the-shelf components. A very simple RF subsystem is used. The system has been successfully operated from a moving surface vehicle and exhibits a range resolution of 2.5 m though this could be improved to 1.5 m at the expense of higher sidelobes. The four look azimuth resolution is 0.4 m. This paper describes the system as well as our plans for upgrading the system for aircraft operation and improved resolution. (Author abstract) 4 Refs.
Descriptors: Synthetic aperture **radar** ; Remote **sensing** ; Costs; Analog to digital conversion; Digital to analog conversion; **Radio** systems; Frequency modulation; Ground **vehicles**
Identifiers: Radio frequency subsystem
Classification Codes:
716.2 (Radar Systems & Equipment); 911.1 (Cost Accounting); 723.2 (Data Processing); 716.3 (Radio Systems & Equipment); 432.1 (Highway Transportation, General)
716 (Radar, Radio & TV Electronic Equipment); 911 (Industrial Economics); 723 (Computer Software); 432 (Highway Transportation)
71 (ELECTRONICS & COMMUNICATIONS); 91 (ENGINEERING MANAGEMENT); 72 (COMPUTERS & DATA PROCESSING); 43 (TRANSPORTATION)

8/5/10 (Item 1 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management

01781564 20030900158

Fuer alle Faelle Mikrowelle. Software Defined Radio: Digitales Fischen im analogen Wellenmeer

anonym

Hightech Report (DaimlerChrysler), v10, n1, pp46-48, 2003
Document type: journal article Language: German
Record type: Abstract

ABSTRACT:
Ueber die Entwicklung einer softwaregesteuerten Plattform fuer Automobil-Kommunikationssysteme bei DaimlerChrysler wird berichtet. Es wird dargelegt, dass die Vielfalt der unterschiedlichen Funkstandards, die neben dem gewoehnlichen Autoradio zukuenftig in einem Fahrzeug verarbeitet werden muessen, aus mehreren Gruenden zunimmt. Dazu gehoeren z.B. die Verarbeitung satellitengestuetzter Radioprogramme sowie die Einfuehrung des digitalen Radios (DAB) und Fernsehens (DVB). Zudem werden fuer die dynamischen Navigationssysteme und den automatischen Notruf redundante GPS-Daten benoetigt, die an Bord des Fahrzeugs verarbeitet werden muessen. Hinzu kommen Radarsysteme, die das Umfeld eines Autos abtasten und den Fahrer beim Manoevrieren unterstuetzen. Dazu gehoert etwa die bereits verfuegbare Distronic, ein System, das den Abstand zum vorausfahrenden Fahrzeug registriert, aber auch radargestuetzte Einparkhilfen, an denen die DaimlerChrysler-Forschung ebenfalls arbeitet. Aus all diesen Anwendungen ergeben sich neue Anforderungen an spezialisierte Hardware-Loesungen in Ergaenzung zu den vorhandenen analogen Fernsehempfaengern und den Radios in allen Wellenbereichen. Erschwerend kommt hinzu, dass weltweit unterschiedliche Standards vorliegen. Mit der Zahl der verschiedenen Signale steigt auch die der Empfangseinrichtungen. So braucht bisher jeder Dienst, mit dem ein Auto in irgendeiner Form mit seiner Umwelt kommuniziert, seine eigene Antenne. In einem S-Klasse-Auto von Mercedes-Benz sind bis zu 18 Antennen eingebaut. Im Projekt Software Defined Radio (SDR) untersucht das Labor fuer Umweltsensorik und Kommunikationselektronik zusammen mit der Fahrzeugentwicklung das Zusammenwirken von Hardware- und Software-Technologien, mit denen rekonfigurierbare Systemarchitekturen fuer drahtlose Netzwerke und Endgeraete realisiert werden koennen. Dank software-konfigurierter Kommunikation lassen sich mehrere Kommunikations- und Funkstandards gleichzeitig beherrschen, zudem verringert sich die Anzahl und Vielfalt der ins Auto eingebauten Hardwarekomponenten. Durch die hochfrequente Digitalisierung und kohaerente Signalauswertung ist es moeglich, mehrere Eingangssignale gleichzeitig zu verarbeiten und an beliebige Ausgaenge zu leiten. Dank der rechnerischen Aufbereitung der elektromagnetischen Wellen muessen Antennen auch nicht mehr so praezise auf definierte Wellenbereiche abgestimmt sein wie bisher. Dies erlaubt voellig neue Antennentechnologien. In Zukunft koennte eine einzige Antenne alle Kommunikationsdienste empfangen. Zudem kann die Form dieser Antene beliebig sein. Durch die Signalverarbeitung mit MIMO-Technik (Multiple Input, Multiple Output) kann man sogar das Dach oder einen Kotfluegel als Antenne nutzen.

DESCRIPTORS: MICROWAVES; MOTOR **VEHICLES** ; DIGITAL TELEVISION; DIGITAL **RADIO** ; **RADIO** COMMUNICATION; DOPPLER **RADAR** **SENSORS** ; AERIALS; DATA NETWORKS; DATA TRANSMISSION; FREQUENCY RANGES; EMERGENCY CALL EQUIPMENT; RANGE MONITOR; VEHICLE SAFETY; AUTOMOBILE ELECTRONICS; ANALOGUE DIGITAL CONVERSION; SIGNAL ANALYSIS; COMPUTER SOFTWARE; SYSTEM ARCHITECTURE
IDENTIFIERS: ANWENDUNG IM FAHRZEUGBAU; GPS--(GLOBAL POSITIONING SYSTEM); Pkw; softwarekonfigurierte-Kommunikation

8/5/11 (Item 2 from file: 95)

DIALOG(R)File 95:TEME-Technology & Management

01477098 20001202307
Lateral control of heavy-duty vehicles in a convoy
(Querregeleung von Lkws im Konvoi)
Claeys, X; Canudas de Wit, C; Bechart, H
Lab. d'Automatique de Grenoble, F; Renault, Saint Priest, F
1st IFAC-Conf. on Mechatronic Systems, Preprints, VDI/VDE-Ges. Mess- und Automatisierungstechnik (GMA), Darmstadt, D, Sep 18-20, 20002000
Document type: Conference paper Language: English
Record type: Abstract

ABSTRACT:
This paper presents a kinematic model and a control law design for lateral control of heavy-duty vehicles in a convoy. In a platoon configuration, **vehicles** are electronically linked by **radio** transmissions and several vision and **radar sensors** . Each vehicle is equipped with lateral and logitudinal controllers, supervised by the driver and some computer aided system. Lateral surveying of heavy duty vehicle is one of the sub-problems to be solved in the context of platooning. However, it has been revealed to be a crucial one because of safety reasons. Concerning lateral control two main strategies have been confronted: the road-frame based control and the relative-frame based control. Two kinematics models that can be used as a basis to design controllers are dervied in the paper, then two different control alternatives are presented that lead to first and second order spatial linearization, respectively. These results have been evaluated on a highly accurate benchmark specially build for studying platoooning features. This strategy is sufficient for controlling 4 vehicles in a platoon but further developments need to be performed concerning lateral string stability of a convoy in order to generalize these results to an arbitrarily number of vehicles.

DESCRIPTORS: ELECTRONIC CONTROL; VEHICLE SAFETY; KINEMATICS; LORRY; AUTOMOBILE ELECTRONICS; LINEARIZATION; MODELS; COMMERCIAL VEHICLES; CONTROL SYSTEM DESIGN; CONTROL ENGINEERING; TIME BEHAVIOUR
IDENTIFIERS: SPURFUEHRUNG; Lkw; Querregelung; Konvoi; kinematisches Modell

8/5/12 (Item 3 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management

01349640 19990901645
Elektronik-Systeme in S- und E-Klasse
Klasche, G
Elektronik, Poing, v48, n18, pp58-60,62,64-66, 1999
Document type: journal article Language: German
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ABSTRACT:
Die Autoelektronik ist mittlerweile zum groessten Elektronik-Marktsegment herangewachsen. Das Beispiel S-Klasse zeigt, dass auch DaimlerChrysler voll und ganz auf Elektronik setzt. An Bord der neuen S-Klasse sind bis zu 40 elektronische Steuergeraete ueber drei digitale Datenautobahnen vernetzt. Zu den Innovationen des Daten-Netzwerkes zaehlt nicht nur die Vielzahl der angeschlossenen Mikrocontroller, die bis zu 850 Informationen austauschen und rund 170 Funktionen steuern, sondern auch eine neuartige faseroptische Uebertragungstechnik mit der Bezeichnung D2B (Domestic Digital Bus). Dieser Bus auf der Basis von Kunststoff-Lichtwellenleitern vernetzt die Audio-,

Kommunikations- und Navigations-Komponenten untereinander. COMAND (Cockpit Management and Data System) heisst eine weitere Innovation. Sie stellt sich als eine zentrale Bedieneinheit mit Farb-Display dar, mit der sich Autoradio, Cassettenspieler, CD-Wechsler, Autotelefon, Navigationssystem, Uhr und TV-Geraet steuern lassen. Der automatische Abstandsregler kombiniert die klassische Tempomat-Funktion mit einem Radar-Sensor, der das Verkehrsgeschehen vor dem Auto bis auf eine Entfernung von 150 m erfasst. Rueckt die S-Klasse einem anderen Fahrzeug zu dicht auf , nimmt der Abstandsregler-Tempomat automatisch Gas weg und aktiviert notfalls die Bremsen. Die Tuergriffe der S-Klasse sind mit Sensoren ausgestattet. Sobald der Fahrer sie anfasst empfaengt seine Chip-Karte Signale. Darauf sendet die Karte einen Identifikations-Code. Stimmt dieser, kann der Autobesitzer einsteigen. Die ESP-Funktionalitaet ist innerhalb des Antiblocktiersystem ein Sicherheits-Feature, das moegliche Fehlreaktionen des Fahrers in kritischen Situationen korrigiert.

DESCRIPTORS: AUTOMOBILE ELECTRONICS; DATA BUS; MICROCONTROLLERS; TRANSMISSION METHOD; OPTICAL WAVEGUIDES; COLOUR PICTURE SCREENS; NAVIGATION SYSTEMS; DISTANCE **SENSORS** ; RADAR APPLICATIONS; MEASURING FEELERS; DOPPLER EFFECT; CHIP CARD; AIR SPRINGS; LEVEL CONTROLLERS; **AUTOMOBILE RADIO** EQUIPMENT; CLIMATIC TECHNIQUE; TEST PROGRAM; MOBILE PHONES
IDENTIFIERS: Kraftfahrzeug-Elektronik

8/5/13 (Item 4 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management

00917663 E95096089006
MMIC design
(Entwurf von integrierten Mikrowellenschaltungen (MMIC))
Robertson, ID
1995
Document type: Monograph Language: English
Record type: Abstract
ISBN: 0-85296-816-7

ABSTRACT:
MMIC technology has reached a long-awaited state of maturity in recent years and MMICs are now used extensively in applications such as communications, **radar** and remote **sensing** . MMICs are rapidly finding new applications in exciting civil applications such as mobile **radio** communications, wireless LANs, and intelligent **vehicle** highway systems. Industry is now transferring much of its design workforce from hybrid microstrip circuits to MMIC design. In recognition of this, many universities have already introduced MMIC design principles into final year and master courses in microwave engineering. This book draws together all the important MMIC design methods and circuit topologies into one volume. It is essential reading as both a tutorial guide for those new to MMIC design and as a circuit design handbook for experienced designers. The contributors are acknowledged experts from industry and academia. The first four chapters describe the active and passive components, processing technology and CAD techniques. The design of the circuits is then covered in individual chapters treating amplifiers, mixers, phase shifters, switches and attenuators, and oscillators. The final three chapters describe silicon millimetre-wave circuits, measurement techniques and advanced circuit concepts.

DESCRIPTORS: INTEGRATED MICROWAVE CIRCUITS; CIRCUIT DESIGN; CIRCUIT CAD; STATE OF THE ART; NETWORK TOPOLOGY; EHF--EXTREMELY HIGH FREQUENCY; MICROWAVE AMPLIFIERS; MICROWAVE TRANSMISSION; MICROWAVE CIRCUITS; MICROWAVE

GENERATION; MICROWAVE FILTERS; MICROWAVE COMPONENTS; NOISE PROPERTIES; GALLIUM ARSENIDE; MESFETS; HIGH ELECTRON MOBILITY TRANSISTORS; FREQUENCY DEPENDENCE; HETEROJUNCTION BIPOLAR TRANSISTORS; MICROSTRIP LINE; SYSTEM SIMULATION; LOW NOISE AMPLIFIER; SEMICONDUCTOR MIXERS; FREQUENCY CONVERSION --COMMUNICATIONS; PHASE SHIFTERS
IDENTIFIERS: integrierte Mikrowellenschaltung; MMIC-Entwurf

8/5/14 (Item 1 from file: 99)
DIALOG(R)File 99:Wilson Appl. Sci & Tech Abs

2661855 H.W. WILSON RECORD NUMBER: BAST03154099
High-flying defense systems poised to take off
Schneiderman, Ron;
Electronic Design v. 51 no13 (June 16 2003) p. 50, 52
DOCUMENT TYPE: Feature Article ISSN: 0013-4872 LANGUAGE: English
RECORD STATUS: Corrected or revised record

ABSTRACT: Part of a special section on the electronics original equipment manufacturing industry. A review of defense electronics projects currently in progress or planned is presented. Defense electronics continues to grow with increased funding expected to be around 19 percent of the total defense spend in fiscal year 2004. New projects include target identification in the visual and IR motion imagery using laser **radar sensors** , new GPS satellites, an interference resistant communications system, software-defined **radio** , unmanned aerial **vehicles** , advanced RF sensors, satellite-based laser communications, and the Orbital Space Plane.

DESCRIPTORS: Pilotless military airplanes; Navstar satellites; Infrared lasers;
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